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WEATHER BUREAU

BULLETIN
OF
INTERNATIONAL METEOROLOGICAL OBSERVATIONS,
TAKEN SIMULTANEOUSLY ON JANUARY 1, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.40	772.1	63.5	17.5	82	Calm			1		2			0	0	Fair	
Nemours			30.34	770.6	62.6	17.0	80	WSW			1		2			0	0	Fair	Kesxuche.
Algiers			30.26	768.6	60.8	16.0	85	Calm			0		0			0	0	Clear	Tourilliere.
La Calle			30.29	769.4	64.8	18.2	63	E			1		5			0	0	Cloudy	Foufrede.
Tunis			30.34	770.5	62.6	17.0	70	W			2		0			0	0	Clear	Jacques.
Sfax			30.36	771.2															Gac.
Saida			30.26	768.6	63.5	17.5	18	S			1		0			0	0	Clear.	Herbin.
Tebessa			30.26	768.7	57.7	14.3	24	SE			1		2			0	0	Fair	Watrin.
Geriville			30.23	767.9	59.7	15.4	98	NNW			2		8			0	0	Very fair	Brugniaux.
Laghouat			30.27	768.9	58.6	14.8	46	S			1		0			0	0	Clear	Bertrand.
Biskra			30.38	771.6	65.8	18.8	52	NNW			1		2			0	0	Fair	Chanvaux.

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.50	749.2	30.05	763.3	52.5	11.4	60	W			3		2			0	0		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.00	736.6	29.78	756.3	46.0	7.8	69	WSW			2		7			0.138	3.5		Dr. Wierzbiski
Eperies	28.96	735.6	29.87	758.7	36.3	2.4	96	S			2		10			0	0		Julius Mikolik.
Gratz	28.75	730.3	30.05	763.2	36.5	2.5	88	S			2		2			0	0		Andreas Rospini.
Hermannstadt	28.54	724.9	30.00	762.0	43.2	6.2	95	NW			2		10			0.014	0.35		Prof. A. Gottschling.
Kremsmünster	28.66	728.0	30.02	762.5	47.3	8.5	100	W			4		7			0	0		Prof. C. Wagner.
Lemberg	28.73	729.8	29.74	755.5	37.8	3.2	90	NW			1		10			0.213	5.4		Dr. T. Stanecki.
Pola	30.08	763.9	30.19	766.8	50.2	10.1	83	Calm			0		10			0.028	0.7		I. R. Hydrographic Office.
Szathmar	29.42	747.3	29.90	759.4	41.7	5.4	91	S			3		7			0	0		Julius Csics, S. J.
Szegedin	29.74	755.4	30.03	762.7	44.6	7.0	94	S			2		8			0.043	1.10		Karl Stancel.
Trieste	30.10	764.4	30.20	767.0	46.2	7.9	94	Calm			0		10			0.142	3.6	Rain & fog	P. Busin.
Vienna	29.25	743.0	29.98	761.4	50.2	10.1	56	W			5		10			0.067	1.7		I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:9, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.59	751.6	29.69	754.1	29.4	— 1.4	.....	WNW	19	8.5	.....	.....	1	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.75	755.6	29.77	756.1	36	2.2	.....	NNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	George Carrick.
Armagh, Observatory	.....	.....	29.81	757.2	34.5	1.4	.....	WNW	1	0.4	.....	.....	4	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.79	756.7	39.1	3.9	.....	NW	3	1.3	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	29.78	756.4	36.4	2.4	.....	NNW	18.0	8.0	.....	.....	10	.....	.....	.....	.....	Overcast....	Thomas Mackereth.
Bradford, Yorkshire	29.39	746.5	29.78	756.4	38.7	3.7	.....	W	.....	.....	5	.....	7	.....	.....	0.16	4.1	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.99	761.7	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.81	757.2	44.2	6.8	.....	WNW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	H. Todd.
Cardington	.....	.....	29.79	756.7	45.0	7.2	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.70	754.4	29.83	757.7	53.2	11.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	Lt. W. G. Morris, R.E.
Dartmoor	28.35	720.1	29.83	757.7	45.0	7.2	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	Squally.....	Alexander Watt.
Donaghadee	29.70	754.4	29.74	755.4	38	3.3	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.79	756.7	29.81	757.2	48	8.9	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	J. Costello.
Falmouth, Observatory	29.46	748.3	29.69	754.1	48.6	9.2	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	The Staff.
Fort Napier, (Natal)	27.44	697.0	29.76	755.9	65.5	18.6	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Pvt. G.Salmon, A.H.C.
Free Town, (Sierra Leone)	29.72	754.9	29.95	760.7	85	29.4	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.68	753.9	37	2.8	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.25	768.3	30.30	769.6	61.9	16.6	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.58	751.3	29.78	756.4	33.9	1.1	.....	W	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.79	756.7	29.79	756.7	43	6.1	.....	WNW	.....	.....	3	.....	7	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.66	753.4	29.83	757.7	48.0	8.9	.....	SW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.57	751.1	29.79	756.7	50	10.0	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S.
Helston	29.61	752.1	29.73	755.1	40	4.4	.....	E	.....	.....	3	.....	10n	.....	.....	0.16	4.1	Raining	M. P. Moyle.
Holyhead	29.70	754.4	29.75	755.6	41	5.0	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy.....	John Tilston.
Jersey	29.53	750.0	29.83	757.7	47.5	8.6	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Rain & fog...	J. Fisher.
Kew, Observatory	29.79	756.7	29.83	757.7	48.5	9.2	.....	WNW	2	0.9	.....	.....	10	.....	.....	.....	.....	Threatning..	The Staff.
Kingstown	29.76	755.9	29.79	756.7	39	3.9	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	29.54	750.3	29.80	756.9	42.2	5.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.12	765.0	30.20	767.1	62	16.7	.....	SW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	29.60	751.8	29.70	754.4	30	— 1.1	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.17	766.3	75.0	23.9	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.62	752.3	29.81	757.2	41.0	5.0	.....	NW	.....	.....	1	.....	10cs	.....	NW	0.030	0.76	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.27	743.4	29.81	757.2	40.8	4.9	.....	W	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.81	757.2	45	7.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Drizzling....	H. E. Bellamy.
Plymouth	29.67	753.6	29.74	755.4	48.8	9.3	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	John Merrifield.
Roche's Point	29.57	751.1	29.62	752.3	41	5.0	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.55	750.6	29.71	754.6	44	6.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.59	751.6	35.1	1.7	.....	NW	36	16.1	.....	.....	5	.....	.....	.....	.....	Rain & snow	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.07	763.8	49.4	9.7	.....	SSW	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.53	750.0	29.81	757.2	39.4	4.1	.....	NW	.....	.....	1	.....	9	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.73	755.1	29.76	755.9	35.4	1.9	78	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	F. H. Redford.
Strathfield Turgiss	29.39	746.5	29.79	756.7	36.5	2.5	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds ..	Rev. S. J. Perry.
Thurso	29.60	751.8	29.82	757.4	48.2	9.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Rev. C. H. Griffith, F.M.S
Truro, Royal Institution	29.55	750.6	29.62	752.3	31	— 0.6	.....	NNW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	John Trotter.
Valencia, Observatory	29.52	749.8	29.54	750.3	45.7	7.6	.....	E	27	12.1	.....	.....	10	.....	.....	Blank	Blank	Raining.....	W. Newcombe.
Sub-Series.																		Gloomy	The Staff.
Hobart Town, (Tasmania)	.....	.....	29.62	752.3	57.0	13.9	88	S	.....	.....	2	.....	4k	.....	.....	0	0	....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.77	756.1	43.2	6.2	.....	W	.....	.....	1	.....	4k	.....	.....	0	0	.....	Andrew Gibb.
Mauritius, Observatory	29.80	756.9	29.98	761.5	81.8	27.7	62	ESE	21.0	9.4	.....	0	6	.....	E	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.62	752.3	29.71	754.6	74.0	23.3	40	NE	9	4.0	.....	.....	0	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.78	756.4	35	1.7	.....	NW	.....	.....	6	5	5	NW	.....	0.3	8.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.32	668.5	30.05	763.3	64.0	17.8	85	SE	.....	.....	1	1ck	.....	.....	.....	0	0	.....	Federico Maison.
"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.29	743.9	29.34	745.1	39.6	4.2	70	NW	.....	.....	6	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	29.41	747.0	29.43	747.5	38.5	3.6	75	W	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkishólm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	29.09	738.8	29.26	743.1	34.5	1.4	96	W	.....	.....	8	.....	0	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.45	747.9	30.00	761.9	48.6	9.2	100	S	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Collignon, Director.
Amiens, Normal School	29.77	756.2	29.88	759.0	42.1	5.6	91	NW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.12	765.1	30.20	767.1	48.2	9	97	N	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Giraud, Director.
Bar-sur-Seine	29.51	749.5	30.08	764.1	51.1	10.6	81	SSW	.....	.....	1	.....	10	.....	SSW	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.72	755.0	30.01	762.3	50.4	10.2	82	SW	.....	.....	1	.....	10	.....	W	0	0	Covered	Frere Eugene Marie, Director.
Besançon, Normal School	29.20	741.8	30.11	764.7	50.5	10.3	86	SSW	.....	.....	2	.....	2	.....	SW	0.720	18.3	Partly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	29.25	742.9	30.16	766.1	43.3	6.3	88	S	.....	.....	3	.....	10n	S	S	.....	.....	Raining	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.47	748.4	29.71	754.6	53.6	12.0	93	SW	.....	.....	4	.....	10	.....	SW	.....	.....	Raining	M. de Rermaur, Director.
Carcassonne, Normal School	29.74	755.4	30.15	765.9	56.5	13.6	71	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Caen, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Lair, Director.
Chartres, Normal School	29.46	748.3	29.63	752.7	50.0	10	100	SW	.....	.....	3	.....	10	.....	W	.....	.....	Light rain	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.76	730.6	30.13	765.2	53.8	12.1	74	NW	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.20	741.8	30.08	764.1	50.4	10.2	86	W	.....	.....	3	.....	10kn	.....	W	0	0	Covered	Pr. Conlet, Director.
Commune de Gréasque*	29.11	739.4	30.25	768.4	50.0	10.0	92	S	.....	.....	1	.....	8	.....	SW	0	0	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.43	747.5	30.22	767.6	44.4	6.9	92	ENE	.....	.....	1	.....	10n	SSW	.....	0	0	Covered	M. Ablard, Director
La Roche-sur-Yon, N. School	29.76	755.8	29.98	761.4	53.2	11.8	95	SW	.....	.....	1	.....	10	.....	.....	0.28	7.	Covered	Mouillot, Director.
Le Mans, Normal School	29.74	755.5	30.06	763.4	50.7	10.4	82	SW	.....	.....	2	.....	10	.....	SW	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.24	742.7	30.17	766.2	53.1	11.7	80	SW	.....	.....	2	.....	10	.....	NW	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	29.73	755.1	29.83	757.6	53.6	12.0	95	SW	.....	.....	6	.....	.....	.....	SW	0.295	7.5	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	28.93	734.9	30.00	762.0	43.2	6.2	97	NNE	.....	.....	3	.....	n	.....	NW	0.35	9.	.....	M. Barbier, Director.
Nismes, Normal School	30.04	763.1	30.25	768.3	50.0	10	56	N	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.26	641.7	.....	.....	41.9	5.5	84	W	.....	.....	3	.....	10	.....	.....	0.083	2.1	Covered	Alluard, Director.
Rochefort, Naval Obs'y	30.01	762.2	30.04	763.0	54.1	12.3	95	S	.....	.....	1	.....	10	S	S	0.08	2.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.82	757.5	29.91	759.7	50.9	10.5	83	SSW	.....	.....	1	.....	10	.....	SW	0.008	0.2	Covered	Frere Lucard, Director.
Saint Malo (Port)	29.76	756.0	29.80	756.8	50.5	10.3	98	SSE	.....	.....	3	.....	10	S	S	.....	.....	Raining	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.83	757.6	29.99	761.8	50 2	10.1	84	SSW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	L. Renou, Director.
Tarbes, Normal School	29.13	739.8	30.20	767.1	55.4	13 .	55	SW	.....	.....	2	.....	2	SW	W	0	0	Slightly cl'dy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.92	759.9	29.95	760.6	77.4	25.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchési.
Lyons, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24 98	634.5	30.30	769.5	44.6	7.0	66	SSW	11.2	5.0	.....	2	.....	SE	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.21	767.4	56.8	13.8	86	W	.....	.....	1	5	.....	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Observ'y	29.72	754.8	.....	.....	50 2	10.1	84	SSW	.....	.....	2	10	.....	.....	.....	0	0	.....	Marié Davy, Director
Perpignan	30.06	763.5	30.17	766.2	54.0	12.2	81	NE	7.4	3.3	.....	5	.....	W	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade,) H. P.	22.65	575.2	.....	.....	43.3	6.3	.....	NW	.....	.....	2	3	.....	.....	.....	0	0	Fair	Gen'l de Nansouty.
Toulouse, Observatory	29.43	747.5	30.15	765.9	57.0	13.9	77	SSE	.....	.....	2	7	.....	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	29.77	756.2	29.97	761.2	52.9	11.6	95	S	.....	.....	2	10	.....	.....	.....	.....	.....	Rainy	C. Marques.
Versailles Observatory	.....	.....	29.99	761.7	50.7	10.4	.....	SW	.....	.....	1	10	.....	.....	.....	0	0	Covered	Dr. A. Bérigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.44	773.1	30.46	773.7	25.9	— 3.4	78	SSW	3.6	1.6	.....	0	.....	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.0	29.89	759.3	47.8	8.8	83	WSW			6		6	W		0.012	0.3	Raining	Prof. Dr. Hoh.
Berlin	29.47	748.5	29.64	752.9	48.0	8.9	74	SW			4		7			0.110	2.8		Prof. Arndt.
Breslau	29.21	742.0	29.74	755.3	49.8	9.9	62	W			6		9			0	0		Royal University Obs'y
Carlsruhe	29.57	751.1	30.00	762.0	52.5	11.4	70	SW			4		10	SW		0.315	8.0		Albert Senz.
Cassel	29.24	742.6	29.84	757.9	46.4	8.0	83	NW			6		10	WNW		0.516	13.10	Raining	Dr. H. Möhl.
Crefeld	29.66	753.4	29.82	757.5	49.6	9.8	90	W			5		10			0.04	1.	Raining	Director Lose.
Emden					40.3	4.6	86	W			4		2			0.047	1.2		Prof. Prestel.
Frankfort on the Main	29.56	750.9	29.93	760.3	50.9	10.5		WSW			4		9			0.016	0.4		Physical Society.
Friedrichshafen	28.66	728.0	30.12	765.0	48.2	9.0	62	SW			1		7	SW		0.339	8.6		M. Wilhelm.
Hamburg	29.54	750.2	29.61	752.0	43.9	6.6	64	W			6		8kn			0.256	6.5	Squally	Captain F. Hegemann
Kiel	29.50	749.4	29.52	749.8	40.3	4.6	86	W			5		5			0.396	10.06		Prof. G. Karsten.
Königsberg, (Prussia)	29.24	742.7	29.32	744.8	44.4	6.9	87	SW			5		6			0.063	1.6		Prof. E. Luther.
Köslin			29.41	747.0	43.3	6.3		W			6		3			0.205	5.2		H. Müller.
Leipsic, Observatory	29.35	745.4	29.77	756.1	47.3	8.5	86	WSW			6		8	W				Sprinkling	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.20	741.8	29.25	742.9	41.0	5.0	94	SSW			3		10n						Skalweit.
Neufahrwasser	29.35	745.4	29.37	745.9	45.7	7.6	68	WSW			5		7			0.075	1.9		A. Lothes.
Posen	29.36	745.7	29.65	753 0	48.2	9.0	79	W			8		9			0.122	3.1	Raining	Dr. Magener.
Strassburg (in Alsace)	29.52	749.7	30.07	763.8	53.8	12.1	61	SW			2		10	SW		0.028	0.70		Imp. University Observatory.
Stuttgart	29.04	737.6	29.98	761.6	52.2	11.2	59	W			2		5	W		0.043	1.1		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.49	723.7	30.02	762.4	48.7	9.3	60	W	20.1	9			6ck	W		0	0	Squally	Dr. Van Bebber.
Wustrow, Naval School	29.45	747.9	29.47	748.5	39.7	4.3	90	WSW			7		10			0.197	5.0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.75	755.6	30.14	765.6	58.6	14.8		SW			1.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.90	759.4	29.95	760.8	72.0	22.2	59	S	5.0	2.2			0			0	0	Blue sky	
Deesa	29.58	751.2	30.06	763.5	78.6	25.9	32	NE					2	WSW		0	0	D. clouds	
Bombay	29.91	759.6	29.94	760.6	78.1	25.6	70	NW	12.0	5.4			3	W		0	0	D. clouds	
Poona	27.97	710.4	29.98	761.6	77.4	25.2		E					0			0	0	Blue sky	
Lahore	29.34	745.2	30.12	765.1	55.6	13.1	45	Calm	0.6	0.3			0			0	0	Blue sky	
Belgaum	27.41	696.3	29.97	761.2	73.9	23.3	58	ENE	5.0	2.2			1			0	0	D. clouds	
Roorkee	29.19	741.4	30.14	765.4	59.8	15.4	60	NW	1.7	0.8			0			0	0	Blue sky	
Agra	29.54	750.3	30.13	765.3	63.2	17.3	55	NE					0			0	0		
Nagpur	28.98	736.2	30.05	763.3	70.6	21.4	32	Calm	2.0	0.9			0			0	0	Blue sky	
Lucknow	29.70	754.3	30.08	764.2	66.4	19.1	36	E	0.9	0.4			0			0	0	Blue sky	
Allahabad	29.79	756.6	30.12	764.9	62.1	16.7	76	Calm	0.5	0.2			0			0	0	Blue sky	
Patna	29.90	759.4	30.08	764.2	71.1	21.7	68	Calm	0.1	0.04			2	NW	NW	0	0		
Hazaribagh	28.01	711.3	30.10	764.4	61.8	16.6	56	NNW	4.2	1.9			1			0	0		
Cuttack	29.98	761.4	30.06	763.5	67.2	19.6	67	Calm	1.1	0.5			3			0	0	D. clouds	
Calcutta (Alipore)	30.05	763.2	30.07	763.8	63.8	17.7	75	N	1.0	0.4			0			0	0	Blue sky	
Goalpara					66.7	19.3	68	SE	5.8	2.6			6			0	0	D. clouds	
Chittagong	29.97	761.3	30.07	763.7	72.8	22.7	76	SW	3.8	1.7			9			0	0		
Sibsagar	29.77	756.2	30.12	765.1	63.9	17.7	78	ENE	0.8	0.4			0			0	0	Blue sky	
Jubbulpore	28.67	728.1	30.07	763.8	68.6	20.3	37	NE	1.6	0.7			4			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.8 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,552 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.77	756.2	30.20	767.0	42.4	5.8	95	Calm	0	0	.....	.....	10	.....	.....	0.079	2.0	.....	Prof. Giovanni Clodig.
Padua	30.09	764.2	30.20	767.1	38.8	3.8	98	NNW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cont. Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	29.65	753.0	30.19	766.9	39.6	4.2	90	SSW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.26	743.2	30.21	767.2	39.0	3.9	83	ESE	.....	.....	2	.....	9	ENE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.23	717.0	30.20	767.1	40.3	4.6	82	N	.....	.....	2	.....	9	NW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Vassallo.
Genoa	30.05	763.2	30.24	768.2	52.9	11.6	94	SE	5.6	2.5	.....	.....	10	SE	.....	0.224	5.7	.....	Prof. G. M. Garibaldi.
Parma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Pigorini.
Florence	29.97	761.3	30.24	768.0	56.3	13.5	85	SE	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	Cav. F. Meucci
Leghorn	30.15	765.7	30.23	767.9	55.6	13.1	87	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.14	765.5	30.19	766.8	43.3	6.3	92	W	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Serpieri
Rome	30.11	764.7	30.29	769.3	56.3	13.5	89	N	0	0	.....	.....	10	.....	.....	0.118	3.0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Palmieri.
Lecce	29.99	761.8	30.25	768.3	58.5	14.7	64	N	0.7	0.3	.....	.....	3	NNW	.....	0.012	0.3	.....	Prof. C. De Giorgi.
Cagliari	30.05	763.2	30.24	768.1	58.3	14.6	73	NW	.....	.....	4	.....	4	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.40	746.8	30.30	769.6	57.7	14.3	74	SW	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.99	761.7	30.24	768.2	57.6	14.2	68	NE	1.8	0.9	.....	.....	6	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.27	768.9	30.35	770.8	56.5	13.6	67	ENE	2.5	1.1	.....	.....	6	E	.....	0	0	.....	Prof. V. Cianciolo.
SUB-SERIES.																			
Naples, S. R.	29.78	756.3	30.33	770.4	54.5	12.5	94	SSW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.29	769.3	30.31	769.9	32.4	0.2	81	Calm	0	0	.....	.....	3ck	SW	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.16	766.0	30.37	771.4	34.6	1.4	94	W	1.5	0.7	.....	.....	6k;ks;	ck] W	W	0.015	0.38	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.12	765.0	32.1	0.1	66	WSW	5.8	2.6	.....	0	0	.....	.....	0	0	Very clear	The Staff.
Tokei (Yeddo) University	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. T. C. Mendenhall.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.8	30.32	770.1	45.5	7.5	68	SW	.....	.....	1	0	.....	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.52	622.9	30.19	766.9	54.7	12.6	80	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.15	588.0	30.25	768.3	50.0	10.0	63	Calm	0	0	.....	0	1s	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	46.4	8.0	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.03	762.8	30.04	763.1	71.4	21.9	97	Calm	.....	.....	0	0	8	.....	E	0	0	Foggy	M. M. Cházaro.
San Luis Potosi	24.28	616.9	30.32	770.1	53.0	11.7	24	NNW	.....	.....	.....	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz	30.07	763.4	30.08	764.1	72.5	22.5	87	Calm	0	0	0	.....	10sk	.....	S	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.78	578.5	.....	.....	48.2	9	77	SSW	.....	.....	5	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.46	596.0	30.24	768.0	46.4	8.0	59	NNE	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.44	722.5	30.12	765.1	70.5	21.4	69	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. B. da, D. F.
San Juan E. Michapam	29.93	760.2	30.06	763.6	72.5	22.5	.....	NE	.....	.....	1	7n	3n	.....	.....	0	0	Covered	Antonio Guerra y Guerra.
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NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1894 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.87	758.6	29.87	758.6	46.8	8.2	.....	.....	.....	W	.....	.....	.....	.....	.....	0.126	3.2	.....	
Groningen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Helder	.....	.....	.....	.....	.....	.....	.....	.....	.....	WNW	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.74	755.4	29.74	755.4	42.6	5.9	.....	.....	.....	W	5	.....	.....	.....	.....	0.087	2.2	.....	
Utrecht	29.82	757.3	29.82	757.3	45.0	7.2	83	.....	.....	WSW	2	.....	.....	.....	.....	.....	.....	.....	
.....	29.78	756.4	29.83	757.6	47.7	8.7	82	.....	.....	W	4	.....	5	.....	.....	0.201	5.1	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	28.93	734.9	28.99	736.3	32.0	0.0	92	NW	32.0	14.3	.....	.....	4	.....	.....	0.079	2.0	Snowing...	
Brōno	28.54	724.9	28.58	725.9	38.5	3.6	63	SSE	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiania	28.52	724.3	28.66	728.0	35.4	1.9	84	WSW	13	6	.....	.....	10	.....	.....	.....	.....	Rain & snow	
Tromsö	28.73	729.8	28.78	730.9	22.3	— 5.4	85	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de B. Cabreira, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.85	758.1	30.04	763.0	58.6	14.8	87	SSE	4.9	2.2	.....	.....	6	.....	.....	0.236	6.0	.....	Dr. J. A. Sampaio.
Campo Major	29.32	744.7	30.38	771.6	44.1	6.7	100	NNE	1.3	0 6	.....	.....	10	.....	.....	0	0	Misty	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.25	768.3	30.37	771.5	62.6	17.0	67	SE	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.98	761.6	30.35	770.9	55.0	12.8	81	E	2.5	1.1	.....	.....	6	SW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.00	762.1	30.08	763.9	63.0	17.2	78	S	16.1	7.2	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h., 0 m., p. m.

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Lima, Capt. da Silva Costa,					
Porto Praya, Cape Verd Ids	.....	.....	3	ESE	Blue sky..... A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Quanza, [lantic.					
St. Thomas Id., Gulf of Guinea, S. At.	.....	.....	1	SE	D. clouds..... A. J. de Mattos, Com'd't.
Sá da Bandeira,					
Saint Paul de Loanda	.....	.....	0	.....	D. clouds.... F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo,					
Macao, China	.....	.....	0	.....	D. clouds..... M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.13	733.9	29.56	750.7	45.0	7.2	86	WSW	22	10	.....	.....	10n	.....	.....	.....	.....	Raining	Astronomical Obs
Wilna	28.98	736.0	29.40	746.8	38.7	3.7	98	SSW	2	1	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	28.95	735.4	29.20	741.6	36.5	2.5	96	SSW	7	3	.....	.....	10n	.....	.....	.....	.....	Light fog.....	Prof. Dr. Weihrauch.
St. Petersburg	29.20	741.7	29.22	742.1	34.2	1.2	94	SSE	13	6	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kieff	28.97	736.8	29.62	752.3	36.3	2.4	93	W	9	4	.....	.....	6ks;c;	ck;n]	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.78	756.5	29.85	758.3	39.9	4.4	93	SW	4	2	.....	.....	7n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.90	759.5	29.92	760.0	46.4	8.0	100	S	4	2	.....	.....	10	.....	.....	.....	.....	Raining.....	Lagorio.
Moscow	28.87	733.4	29.45	748.0	26.6	— 3.0	98	S	9	4	.....	.....	10s	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Lugan	29.42	747.2	29.63	752.5	37.0	2.8	89	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.36	745.8	29.38	746.3	15.4	— 9.2	91	ESE	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Capt Sseliwerstow.
Tiflis	28.78	731.0	30.26	768.5	39.7	4.3	71	NW	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.24	768.0	30.15	765.9	29.5	— 1.4	94	SE	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*...	29.45	747.9	29.95	760.6	24.1	— 4.4	82	SSW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.68	753.8	29.97	761.2	14.4	— 9.8	97	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.02	737.2	30.09	764.3	2.1	—16.6	88	ESE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.06	763.4	30.30	769.6	32.0	0.0	81	WSW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	
Tashkend	25.65	727.7	30.46	773.6	33.8	1.0	81	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.87	758.6	30.46	773.6	1.2	—17.1	79	SW	0	0	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	30.19	766.9	30.52	775.2	3.2	—16.0	87	W	9	4	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.16	766.1	30.30	769.7	28.4	— 2.0	44	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness wtihout distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.13	765.4	30.24	768.1	54.7	12.6	53	SW	2.6	1.17	.....	.....	1ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.02	762.4	30.07	763.8	64.0	17.8	55	S	4.1	1.84	.....	.....	10	.....	.....	0	0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.32	693 8	.....	.....	48.7	9.3	74	SW	7.5	3.35	.....	.....	6	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.06	712.7	.....	.....	41.0	5.0	98	SW	1.5	0.67	.....	0	10	.....	.....	0.008	0.2	Dense fog....	The Staff.
Murcia, Met. Obs'y	30.17	766.2	30.32	770.0	64.4	18.0	56	WSW	0.7	0.33	.....	1	3	ESE	.....	0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.1	30.08	764.0	55.6	13.1	93	S	29.8	13.3	.....	.....	10	.....	.....	1.032	26.2	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.08	764.1	30.15	765.8	66.9	19.4	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands,	29.93	760.3	29.98	761.6	77.9	25.5	73	NNE	2.7	1.2	.....	.....	2	.....	N	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.26	768.7	30.36	771.2	58.6	14.8	91	Calm	0	0	.....	0	10	.....	S	0	0	.....	Capt. C. Pulazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.04	762.9	30.13	765.2	77.4	25.2	77	SE	12.9	5.75	.....	1k	8kn	SE	SE	0	0	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.91	734.3	28.95	735.3	32.7	0.4	.....	S	.....	.....	2	.....	10	.....	.....	0.118	3.0	.....	
Umea	28.74	730.1	28.80	731.4	34.5	1.4	100	S	.....	.....	4	.....	10	.....	.....	0	0	Foggy	
Hernosand	28.68	728.5	28.73	729.8	34.7	1.5	98	S	.....	.....	2	.....	10	.....	.....	0.020	0.5	Snowing	
Stockholm	28.66	727.9	28.84	732.4	39.9	4.4	84	SSW	.....	.....	4	.....	10	.....	.....	0.087	2.2	.....	
Wisby	28.93	734.8	28.99	736.3	41.7	5.4	97	WSW	.....	.....	7	.....	10	.....	.....	0.039	1.0	.....	
Sub-Series.																			
Upsala	28.71	729.2	28.78	731.1	38.3	3.5	95	S	16.7	7.5	.....	.....	10	.....	.....	0.079	2.01	Raining	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.71	729.1	30.15	765.9	47.3	8.5	82	N	.....	.....	1	.....	5	.....	.....	0.142	3.6	Vapory	The Observatory.
Zurich	28.47	723.0	30.12	765.0	49.3	9.6	78	W	.....	.....	2	.....	8	.....	.....	0.441	11.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.4 mm.; Thermometer, +7.0 cent.; Relative Humidity, +2 per cent.

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

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.12	765.1	49.5	9.7	71	SW	9	4.0	.....	.....	8	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.27	768.8	57.7	14.3	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.99	761.7	30.11	764.7	62.2	16.8	55	N	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.74	755.4	30.07	763.8	20	— 6.7	.....	SW	5	2.2	.....	0	2s	.....	SW	0.21	5.3	Clear	W. R. Rigg.
*Chatham, N B	29.89	759.2	29.96	761.0	1	—17.2	91	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.87	758.7	29.92	760.0	12	—11.1	92	W	8	3.6	.....	0	5k	.....	W	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.04	763.0	19.4	— 7.0	97	W	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson
Esquimault, B. C	30.19	766.8	30.23	767.8	30.0	— 1.1	89	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.90	759.4	29.92	760.0	17	— 8.3	83	SW	10	4.5	.....	8k	2s	W	SW	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.07	763.8	5.2	—14.9	93	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.39	746.5	30.38	771.6	—26	—32.2	100	NW	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.93	734.8	30.16	766.1	3	—16.1	.....	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Fine	James Grant.
*Halifax, N. S	29.82	757.4	29.96	761.0	14	—10.0	87	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.76	755.9	30.18	766.6	13.7	—10.2	94	W	.....	.....	1	7ck	0	W	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	29.11	739.4	29.14	740.1	32	0.0	89	W	.....	.....	5	.....	10	.....	.....	0.14	3.6	Overcast	E. Weedon.
*Kingston, Ontario	29.72	754.9	30.08	764.0	22	— 5.6	84	W	5	2.2	.....	8c	0	Calm	.....	0.10	2.5	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.66	753.4	29.70	754.4	19.4	— 7.0	92	NW	10	4.5	.....	5k	0	NW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.84	757.9	30.05	763.3	18	— 7.8	98	SW	13	5.8	.....	.....	10n	.....	.....	0.01	0.3	Light snow	G. T. McLeod, C. E.
Moose Factory, Ontario	29.89	759.2	29.93	760.2	— 3.9	—19.9	100	SW	.....	.....	3	4cs	0	.....	.....	0.05	1.3	Fair	J. R. Nason.
*Parry Sound, Ontario	29.28	743.7	30.02	762.5	19	— 7.2	85	NE	3	1.3	.....	5k	5ks	W	W	0.25	6.3	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.27	743.4	30.09	764.3	8.7	—12.9	77	Calm	.....	.....	.....	0	3ks	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.38	746.2	30.14	765.5	15	— 9.4	90	W	5	2.2	.....	10k	0	W	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.15	765.8	12	—11.1	88	W	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.75	755.6	30.11	764.8	8	—13.3	100	Calm	.....	.....	0	.....	10n	.....	Calm	0.05	1.3	Light snow	Capt. Ashe, R. N
*Rockliffe, Ontario	29.52	749.8	30.02	762.5	11	—11.7	90	Calm	0	0	.....	.....	5s	.....	NW	Inap.	Inap.	Fair	W. H. McIntyre.
St. Andrews, N. B	30.00	762.0	30.05	763.3	12	—11.1	86	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.91	759.7	30.09	764.3	10	—12.2	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.27	743.4	30.02	762.5	27	— 2.8	88	W	19	8.5	.....	.....	10n	.....	W	0.02	0.5	Cloudy	K. Stewart.
Stayner, Ontario	29.34	745.2	30.18	766.6	16	— 8.9	84	W	3	1.3	.....	5ck	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.72	729.5	30.12	765.0	9.3	—12.6	91	SW	4	1.8	.....	2c;ck	3s	.....	.....	0	0	Fair	C. J. MacGregor, M. A
*Sydney, C. B	29.72	754.9	29.76	755.9	23	— 5.0	78	NW	20	8.9	.....	0	2ks	.....	NW	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.70	754.4	30.11	764.8	14	—10.0	92	SW	5	2.2	.....	5ck	5ks	W	Calm	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.86	758.4	29.96	761.0	13	—10.6	81	W	1.5	0.7	.....	1ck	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	28.0	— 2.2	100	SW	.....	.....	.....	4	4n	.....	.....	0.16	4.1	Stormy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From —	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Albany, New York	29.93	760.2	30.17	766.3	14	—10.0	91	Calm	0	0	.....	10cs	Haze	W	.....	0	0	Cloudy	
Alpena, Michigan	29.38	746.2	30.07	763.8	17	— 8.3	83	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Atlanta, Georgia	28.84	732.5	30.01	762.2	40	4.4	91	NE	8	3.6	.....	.....	Fog	.....	Calm	1.14	29.0	Dense fog	
Atlantic City, New Jersey	30.17	766.3	30.18	766.6	25	— 3.9	75	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Augusta, Georgia	29.88	758.9	30.06	763.5	42	5.6	91	Calm	0	0	.....	.....	10n	.....	NW	1.76	44.7	Light rain	
Baltimore, Maryland	30.14	765.5	30.19	766.8	30	— 1.1	78	SW	2	0.9	.....	5ck	5s;sm'	W	w;calm	0	0	Cloudy	
Barnegat, New Jersey	30.16	766.1	30.19	766.8	26	— 3.3	75	Calm	0	0	.....	2k	5s	W	Calm	0	0	Fair	
Bismarck, Dakota	28.36	720.3	30.22	767.6	—24	—31.1	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.63	727.2	29.97	761.2	47	8.3	100	NW	3	1.3	.....	.....	Fog	.....	NW	0	0	Foggy	
Boise City, Idaho	27.32	693.9	30.28	769.1	9	—12.8	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.00	762.0	30.17	766 3	19	— 7.2	69	W	4	1.8	.....	7ck	1s;hz	W	W;Calm	0	0	Fair	
Brackettville, Texas	28.95	735.3	30.00	762.0	47	8.3	70	Calm	0	0	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Breckenridge, Minnesota	29.18	741.2	30.36	771.1	—21	—29.4	100	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.10	764.5	30.17	766.3	53	11.7	100	NE	2	0.9	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Buffalo, New York	29.36	745.7	30.11	764.8	21	— 6.1	71	S	3	1.3	.....	2c	5s	W	Calm	0.01	0.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	Inap.	W	.....	.....	1	2c	0	E	.....	0	0	Clear	
Burlington, Vermont	29.81	757.2	30.12	765.0	20	— 6.7	70	S	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Cairo, Illinois	29.71	754.6	30.12	765.0	32	0.0	89	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.23	640.8	30.03	762.8	43	6.1	43	N	.....	.....	1	2ck	0	N	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	32	0.0	40	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.38	695.4	29.95	760.7	41	5.0	91	NE	16	7.2	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	49	9.4	93	SE	2	0.9	.....	.....	10n	.....	SE	0.08	2.0	Light rain	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	41	5.0	82	E	7	3.1	.....	.....	10s	.....	Calm	0	0	Threatening	
Cape Lookout, N. Carolina	30.03	762.8	30.05	763.3	46	7.8	100	NE	7	3.1	.....	.....	10n	.....	NE	1.33	33.8	Light rain	
Cape May, New Jersey	30.15	765.8	30.18	766.6	27	— 2.8	77	SW	8	3.6	.....	5ck	5s	W	W	0	0	Cloudy	
Castroville, Texas	29.33	745.0	30.05	763.3	51	10.6	93	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.08	764.0	30.15	765.8	45	7.2	92	Calm	0	0	.....	.....	10n	.....	Calm	0.64	16.3	Light rain	
Cheyenne, Wyoming	23.93	607.8	29.87	758.7	— 2	—18.9	100	N	12	5.4	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Chicago, Illinois	29.35	745.5	30.10	764.5	15	— 9.4	82	W	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Cincinnati, Ohio	29.39	746.5	30.08	764.0	30	— 1.1	78	NE	3	1.3	.....	.....	10ks	.....	E	0.02	0.5	Threatening	
Cleveland, Ohio	29.35	745.5	30.12	765.0	22	— 5.6	86	NW	1	0.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Coleman City, Texas	28.30	718.8	30.05	763.3	32	0.0	100	W	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Columbus, Ohio	29.20	741.7	30.08	764.0	26	— 3.3	88	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Corpus Christi, Texas	28.18	715.8	29.94	760.5	32	0.0	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.66	753.4	30.14	765.5	42	5.6	91	NE	1	0.4	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Davenport, Iowa	29.46	748.3	30.16	766.1	8	—13.3	78	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.32	643.1	.....	.....	— 8	—22.2	58	W	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Decatur, Texas	28 89	733.8	30.10	764.5	40	4.4	91	S	10	4.5	.....	.....	Fog	.....	.....	0	0	Foggy	
Denison, Texas	29.28	743.7	30.10	764.5	41	5.0	91	SW	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Denver, Colorado	24.78	629.4	30.00	762.0	4	—15.6	74	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.24	742.7	30.21	767.3	9	—12.8	89	NE	9	4.0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Detroit, Michigan	29.40	746.7	30.12	765.0	13	—10.6	81	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.40	696.0	29.84	757.9	18	— 7.8	84	NW	8	3.6	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Dubuque, Iowa	29.39	746.5	30.17	766.3	2	—16.7	72	NW	1	0.4	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Duluth, Minnesota	29.45	748 0	30.23	767.8	— 7	—21.7	59	W	3	1.3	.....	0	2s	.....	Calm	0.02	0.5	Fair	
Eagle Pass, Texas	29.34	745.2	30.10	764.5	49	9.4	93	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Eastport, Maine	29.99	761.7	30.07	763 8	14	—10.0	64	W	3	1.3	.....	2cs	0	W	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	54	12.2	93	N	.....	.....	1	.....	10s	.....	N	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	52	11.1	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.35	745.5	30.10	764.5	24	— 4.4	87	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.40	746.7	30.11	764.8	8	—13.3	78	NW	8	3.6	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Florence, Arizona	28.55	725.2	30.15	765.8	43	6.1	83	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.61	650.5	29.68	753.9	18	— 7.8	52	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	30	— 1.1	79	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.53	750.0	30.09	764.3	34	1.1	95	Calm	0	0	.....	.....	10n	.....	Calm	0.06	1.5	Sleeting	
Fort Graham, Texas	28.80	731.5	30.15	765.8	28	— 2.2	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.86	707.6	29.85	758.2	37	2.8	81	W	5	2.2	.....	5ck	0	NE	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.84	732.5	29.99	761.7	37	2.8	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Fort Stevenson, Dakota	28.41	721.6	.....	.....	—28	—33.3	100	NW	.....	.....	6	10cs	0	W	.....	0.05	1.3	Cloudy	
Fredericksburg, Texas	28.32	719.3	29.93	760.2	43	6.1	75	SW	6	2.7	.....	5ck	0	Calm	.....	0.02	0.5	Fair	
Galveston, Texas	30.08	764.0	30.13	765.3	46	7.8	100	NE	5	2.2	.....	.....	10s	.....	NE	1.49	37.8	Threatening	
Graham, Texas	29.01	736.8	30.12	765.0	31	— 0.6	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Grand Haven, Michigan	29.38	746 2	30.01	762.2	16	— 8.9	66	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.24	742.7	30.06	763.5	27	— 2.8	76	NE	3	1.3	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	
Indianola, Texas	30.13	765.3	30.15	765.8	48	8.9	96	N	6	2.7	.....	.....	10s	.....	N	0.01	0.3	Threatening	
Jacksboro, Texas	28.90	734.0	30.08	764.0	33	0.6	89	S	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	
Jacksonville, Florida	30.09	764.3	30.12	765.0	54	12.2	87	NE	4	1.8	.....	.....	10s	.....	SW	Inap.	Ina	Cloudy	
Keokuk, Iowa	29.43	747.5	30.08	764.0	24	— 4.4	87	N	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Key West, Florida	30.13	765.3	30.16	766.1	69	20.6	85	E	4	1.8	.....	0	8s	.....	SE	0	0	Fair	
Kittyhawk, North Carolina	30.07	763.8	30.10	764.5	45	7.2	100	E	12	5.4	.....	.....	10n	.....	E	0.25	6.3	Light rain	
Knoxville, Tennessee	29.05	737.9	30.09	764.3	34.5	1.4	95	Calm	0	0	.....	.....	10n	.....	Calm	0.60	15.2	Heavy rain	
La Crosse, Wisconsin	29.35	745.5	30.15	765.8	11	—11.7	79	N	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
La Mesilla, New Mexico	26.18	665.0	30.33	770.4	27	— 2.8	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.71	754.6	30.06	763.5	51	10.6	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.21	741.9	30.11	764.8	26	— 3.3	88	NW	4	1.8	.....	.....	10n	.....	.....	0.01	0.3	Light snow	
Los Angeles, California	29.53	750.0	29.87	758.7	54.5	12.5	68	E	21	9.4	.....	.....	10s	.....	Calm	3.28	83.3	Cloudy	
Louisville, Kentucky	29.47	748.5	30.06	763.5	28	— 2.2	88	N	6	2.7	.....	.....	10n	.....	Calm	0.07	1.8	Light snow	
Lynchburg, Virginia	29.43	747.5	30.15	765.8	32	0.0	69	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	29.05	737.9	30.11	764.8	16	— 8.9	66	NW	3	1.3	.....	5k	0	W	.....	0	0	Fair	
Marquette, Michigan	29.31	744.5	30.07	763.8	12	—11.1	80	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.44	722.4	30.26	768.6	41	5.0	82	W	4	1.8	.....	0	1s	.....	W	0	0	Clear	
Memphis, Tennessee	29.77	756.1	30.11	764.8	33	0.6	100	NW	5	2.2	.....	0	10s	.....	Calm	0.13	3.3	Cloudy	
Milwaukee, Wisconsin	29.32	744.7	30.10	764.5	16	— 8.9	68	NW	3	1.3	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Mobile, Alabama	30.01	762.2	30.05	763.3	53	11.7	100	N	4	1.8	.....	.....	Fog	.....	.....	0.19	4.8	Foggy	
Montgomery, Alabama	29.80	756.9	30.04	763.0	48	8.9	96	Calm	0	0	.....	.....	10n	.....	E	0.70	17.8	Light rain	
Morgantown, West Virginia	28.96	735.6	30.04	763 0	38	3.3	72	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.39	594.1	29.75	755.6	1	—17.2	72	NW	39	17 4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29 48	748.8	30.03	762.8	38	3.3	100	Calm	0	0	.....	.....	10n	.....	Calm	0.54	13.7	Light rain	
New Haven, Connecticut	30.07	763.8	30.19	766.8	25	— 3.9	68	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.16	766.1	30.21	767.3	24	— 4.4	74	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.06	762.0	30.06	763.5	57	13.9	94	N	2	0.9	.....	.....	Fog	.....	Calm	0.38	9.7	Foggy	
Newport, Rhode Island	30.13	765.3	30.19	766.8	27	— 2.8	64	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Threatening	
New York, New York	30.01	762.2	30.20	767.1	29	— 1.7	78	NW	3	1.3	.....	2ck	5s	S	Calm	0	0	Fair	
Norfolk, Virginia	30.08	764.0	30.14	765.5	40	4.4	91	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.32	693.4	30.08	764.0	3	—16.1	73	NE	12	5.4	.....	0	5s	.....	NW	0.01	0.3	Clearing	
Olympia, Washington Ter.	30.20	767.1	30.24	768.1	21.0	— 6.1	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Correcte for instrum'tal error and temperature. Inches.	Barometer. Correcte for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Omaha, Nebraska	29.03	737.4	30.24	768.1	8	—13.3	89	N	18	8.0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	
Oswego, New York	29.79	756 7	30.14	765.5	25	— 3.9	87	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Pembina, Dakota	29.35	745.5	30.34	770.6	—29	—33.9	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa	30.15	765.8	30.20	767.1	37	2.8	81	SW	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.93	734.8	30.82	782.8	38	3.3	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.36	439.6	29.57	751.4	— 2	—18.9	100	SW	16	7.2	.....	.....	10n	.....	Calm	0.02	0.5	Light snow..	
Pioche, Nevada	24.01	609.8	29.78	756.4	32	0.0	89	S	6	2.7	.....	.....	10s	.....	Calm	0.34	8.6	Cloudy.....	
Pittsburg, Pennsylvania	29.23	742.4	30.08	764.0	26	— 3.3	88	NW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Port Huron, Michigan	29.37	746.0	30.10	764.5	9	—12.8	78	SW	8	3.6	.....	5ck	0	W	.....	0	0	Fair	
Portland, Maine	30.06	763.5	30.11	764.8	20	— 6.7	70	W	4	1.8	.....	1k	Haze	Calm	.....	0	0	Clear.	
Portland, Oregon	30.18	766.6	30.29	769.4	31	— 0.6	74	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Prescott, Arizona	24.74	628.4	30.10	764.5	17	— 8.3	67	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	29.37	746.0	30.27	768.8	20	— 6.7	56	W	3	1.3	.....	8k	2s	NW	W	0.02	0.5	Cloudy.....	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	63	17.2	83	SE	7	3.1	.....	5cs	2s	SW	SW	0	0	Fair.....	
Red Bluff, California	29.59	751.6	29.95	760.7	43	6.1	67	NW	7	3.1	.....	0	1s	.....	Calm	Inap	Inap.	Clear.....	
Rio Grande City, Texas	29.97	761.2	30.29	769.4	54	12.2	93	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Rochester, New York	29.46	748.3	30.11	764.8	20	— 6.7	85	SW	7	3.1	.....	.....	10s	.....	E	0.01	0.3	Cloudy.....	
Roseburg, Oregon	29.58	751.3	30.19	766.8	20.0	— 6.7	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.77	756.1	29.85	758.2	42.0	5.7	87	N	12	5.4	.....	0	1s	.....	S	0.44	11.2	Clear.....	
St. Louis, Missouri	29.52	749.8	30.12	765.0	30	— 1.1	78	N	6	2.7	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	
St. Marks, Florida	30.06	763.5	30.08	764.0	60	15.6	100	SW	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Light rain..	
St. Paul, Minnesota	29.28	743.7	30.21	767.3	1	—17.2	72	NW	11	4.9	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	29	— 1.7	100	W	1	0.4	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
San Antonio, Texas	29.43	747.5	30.03	762.8	49	9.4	93	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
San Diego, California	29.87	758.7	29.94	760.5	52.8	—11.6	73	E	8	3.6	.....	.....	10n	.....	Calm	0.05	1.3	Light rain...	
Sandusky, Ohio	29.42	747.2	30.13	765.3	28	— 2.2	66	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	30.15	765.8	30.19	766.8	30	— 1.1	78	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy	
San Francisco, California	29.77	756.1	29.83	757.7	52	11.1	85	SE	8	3.6	.....	0	2s	.....	Calm	0.25	6.3	Clear.	
Santa Fé, New Mexico	23.25	590.5	29.79	756.7	15	— 9.4	65	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.03	762.8	30.13	765.3	48	8.9	85	NE	2	0.9	.....	.....	10n	.....	Calm	0.71	18.0	Light rain..	
Shreveport, Louisiana	29.92	760.0	30.14	765.5	41	5.0	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.62	15.7	Foggy.....	
Silver City, New Mexico	24.34	618.2	30.78	781.8	28	— 2.2	88	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	30.08	764.0	30.12	765.0	41	5.0	100	N	2	0.9	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Springfield, Massachusetts	30.07	763.8	30.21	767.3	19	— 7.2	69	SW	2	0.9	.....	.....	10ks	.....	SW; S	0	0	Cloudy.....	
Stockton, Texas	27.04	686.8	30.04	763.0	35	1.7	90	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.09	764.3	30.15	765.8	20	— 6.7	56	NW	12	5.4	.....	2cs	0	NW	.....	0	0	Fair	
Toledo, Ohio	29.39	746.5	30.11	764.8	20	— 6.7	70	SW	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	38	3.3	46	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Tybee Island, Georgia	30.11	764.8	30.14	765.5	43	7.2	100	NE	7	3.1	.....	.....	10n	.....	NE	0.95	24.1	Light rain..	
Umatilla, Oregon	30.13	765.3	30.70	779.8	0	—17.8	85	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	38	3.3	90	SE	.....	.....	1	.....	10s	.....	S	2.42	61.5	Cloudy.....	
Uvalde, Texas	29.23	742.4	30.06	763.5	45	10.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Vicksburg, Mississippi	29.89	759.2	30.16	766.1	44	6.7	92	NW	4	1.8	.....	.....	10s	.....	NW	0.29	7.4	Cloudy	
Virginia City, Montana	24.23	615.4	29.71	754.6	—14	—25.6	50	Calm	0	0	.....	.....	0	.....	.....	0.07	1.8	Clear.....	
Visalia, California	29.43	747.5	29.80	756.9	48.5	9.2	85	N	6	2.7	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy.....	
Washington, D. C	30.04	763.0	30.16	766.1	25.5	— 3.6	75	E	1	0.4	.....	10ck	Fog	W	Calm	0	0	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	34	1.1	79	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.00	762.0	30.09	764.3	39	3.9	100	N	3	1.3	.....	.....	10n	.....	Calm	0.17	4.3	Light rain..	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	19	— 7.2	69	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	30.14	765.5	30.18	766.6	29	— 1.7	89	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	28.97	735.8	30.46	773.7	— 7	—21.7	79	NW	3	1.3	.....	0	1s	.....	NW	0.21	5.3	Clear.....	
Yuma, Arizona	29.87	758.7	30.04	763.0	44	6.7	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fayettville, Ark	28.44	722.4	29.91	759.7	31	— 0.6	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.12	765.0	30.14	765.5	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.25	768.3	30.26	768.6	75	23.9	85	N	2	0.9	.....	2c	2s	N	Calm	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	30.01	762.2	30.09	764.3	79	26.1	.....	NE	8	3.6	.....	.....	.....	.....	.....	0	0	Fair.....	F. M Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	75.5	24.2	98	E	.....	.....	3	.....	10n	E	.....	2.190	55.63	Rainy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.11	764.8	30.17	766.3	—21.0	—29.4	.....	E	6	2.7	.....	3c	1s	NW	NW	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,293 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 m.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.79	756.7	52	11.1	51	10.6	79	ESE	9	4.0	.....	.....	2	.....	ESE	0.11	2.8	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.18	766.6	61	16.1	61	16.1	94	W	7	3.1	.....	.....	Fog	.....	W	0	0	.....	.....	Dense fog	
Navy Yard, Portsmouth, N.H	30.10	764.5	46	7.8	15	— 9.4	100	NW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan*	30.07‡	763.8‡	.....	.....	34.5	1.4	62	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Alaska.																					
Panama	30.17	766.3	78	25.6	77	25.0	86	NW	.....	.....	3	.....	2	.....	SE	0	0	.....	.....	D. clouds	
Alliance.																					
Smyrna, Turkey	30.27‡	768.8‡	.....	.....	58	14.4	58	SSE	.....	.....	1–2	.....	3	.....	S	.....	.....	.....	.....	Clear	
Ashuelot.																					
N. 9° 10′, E. 104° 07′	30.07	763.8	80	26.7	79	26.1	62	NNE	.....	.....	6	.....	10	.....	NNE	.....	.....	Mod'ate	NNE	Misty	
Canonicus,																					
New Orleans, La.	30.04	763.0	44	6.7	55	12.8	93	NW	.....	.....	2	.....	10	.....	NW	.....	.....	.....	.....	Raining	
Colorado.																					
New York, N. Y.	30.14	765.5	30	— 1.1	29	— 1.7	100	NW	2	0.9	.....	.....	8	.....	SW	0	0	.....	.....	Hazy	
Constitution,																					
Havre, France	29.82‡	757.4‡	.....	.....	51	10.6	100	S	.....	.....	2	.....	10	.....	SSW	.....	.....	.....	.....	Misty	
Despatch,																					
Constantinople, Turkey	30.17‡	766.3‡	.....	.....	51	10.6	72	SSW	.....	.....	2	.....	8	.....	SW	.....	.....	.....	.....	Fair	
Franklin,																					
Norfolk, Va.	30.23	767.8	66	18.9	43	6.1	75	ENE	2	0.9	.....	.....	10	.....	E	0	0	.....	.....	Cloudy	
Hartford,																					
Montevideo, Uruguay	29.80	756.9	74	23.3	58	14.4	70	SW	30.0	13.4	.....	.....	5	.....	SW	0.92	23.4	Rough	SW	Fair	
Lackawana,																					
La Union, San Salvador, C. A.	29.80‡	756.9‡	.....	.....	78	25.6	82	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan,																					
Erie, Pa.	30.05†	763.3†	.....	.....	24	— 4.4	87	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy.																					
Yokohama, Japan*	30.09‡	764.3‡	.....	.....	34	1.1	79	WSW	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Light haze	
New Hampshire.																					
Port Royal, S. C.	30.44†	773.2†	.....	.....	44	6.7	100	NE	5	2.2	.....	.....	10	.....	Calm	0.96	24.4	.....	.....	Overcast	
Onward,																					
Callao, Peru	30.08†	764.0†	.....	.....	67	19.4	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos,																					
Tientsin, China	30.25	768.3	37	2.8	23	— 5.0	100	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic,																					
Washington, D. C.	.....	.....	.....	.....	25	— 3.9	75	NE	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Pensacola,																					
N. 9° 45′, W. 85° 32′	29.93‡	760.2‡	.....	.....	77	25.0	95	NE	1.4	0.6	.....	.....	2	.....	.....	0	0	Smooth	ENE	Clear	
Powhatan,																					
Norfolk, Va.	30.14	765.5	44	6.7	44	6.7	84	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Misty	
Quinnebaug,																					
Norfolk, Va.	30.13‡	765.3‡	.....	.....	40	4.4	.....	ENE	.....	.....	0–1	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Richmond,																					
New York, N. Y.	30.21‡	767.3‡	.....	.....	30	— 1.1	100	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	.....	Fair	
Rio Bravo,																					
Brownsville, Texas	30.05	763.3	57	13.9	54	12.2	93	W	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Light rain	
Santee,																					
Annapolis, Md.	30.13‡	765.3‡	.....	.....	30	— 1.1	.....	NW	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
St. Louis,																					
League Island, Pa	30.10	764.5	54	12.2	29	— 1.7	.....	Calm	0	0	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy	
Supply,																					
Havre, France	29.86‡	758.4‡	.....	.....	53	11.7	93	S	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Trenton																					
Villafranca, France*	30.19‡	766.8‡	.....	.....	60	15.6	76	WSW	.....	.....	0–1	.....	4	.....	WSW	0	0	.....	.....	Fair	
Tuscarora,																					
N. 15° 34′, W. 94° 19′	30.00‡	762.0‡	.....	.....	78	25.6	95	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia,																					
N. 25° 55′, W. 68° 35′	30.13‡	765.3‡	.....	.....	73	22.8	72	NNE	.....	.....	2	.....	2	.....	NNE	.....	.....	Smooth	.....	Clear	
Wabash,																					
Boston, Mass.	30.19‡	766.8‡	.....	.....	19	— 7.2	.....	NW	5	2.2	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 11° 49′, W. 87° 35′		30.04*	763.0*	80	26.7	87	ENE			3		0				Very small	NE	Blue sky	Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Grenada																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer.
S. S. Zealandia, Sydney, Australia		29.90	759.4				NNE			1–2		0						Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer, N. 38° 27′, W. 125° 02′		29.97*	761.2*	56	13.3	94	Calm			0		k		W	0	Smooth	W	Misty	J. A. Thompson, 2d Off'r.
S. S. Gaelic, N. 22° 16′, E. 114° 8′		30.25†	768.3†	56	13.3	??	NE			5		k		SW	0				Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionaly by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 36', W. 40° 22'		29.32*	744.7*	48	8.9	92	SE			2		7		SE	Blank	Heavy Irregular.	NE	Cloudy	Captain Sargent.
S. S. Ohio, N. 49° 10', W. 39° 44'		29.32†	744.7†	47	8.3	86	SSE			4		10?		ESE	0		W;E	Clear?	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 51° 1' W 37° 54'		29.08*	738.6*	47	8.3		ENE			3		7		NE	0	Confused		D. clouds	Capt. W. Richardson.
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

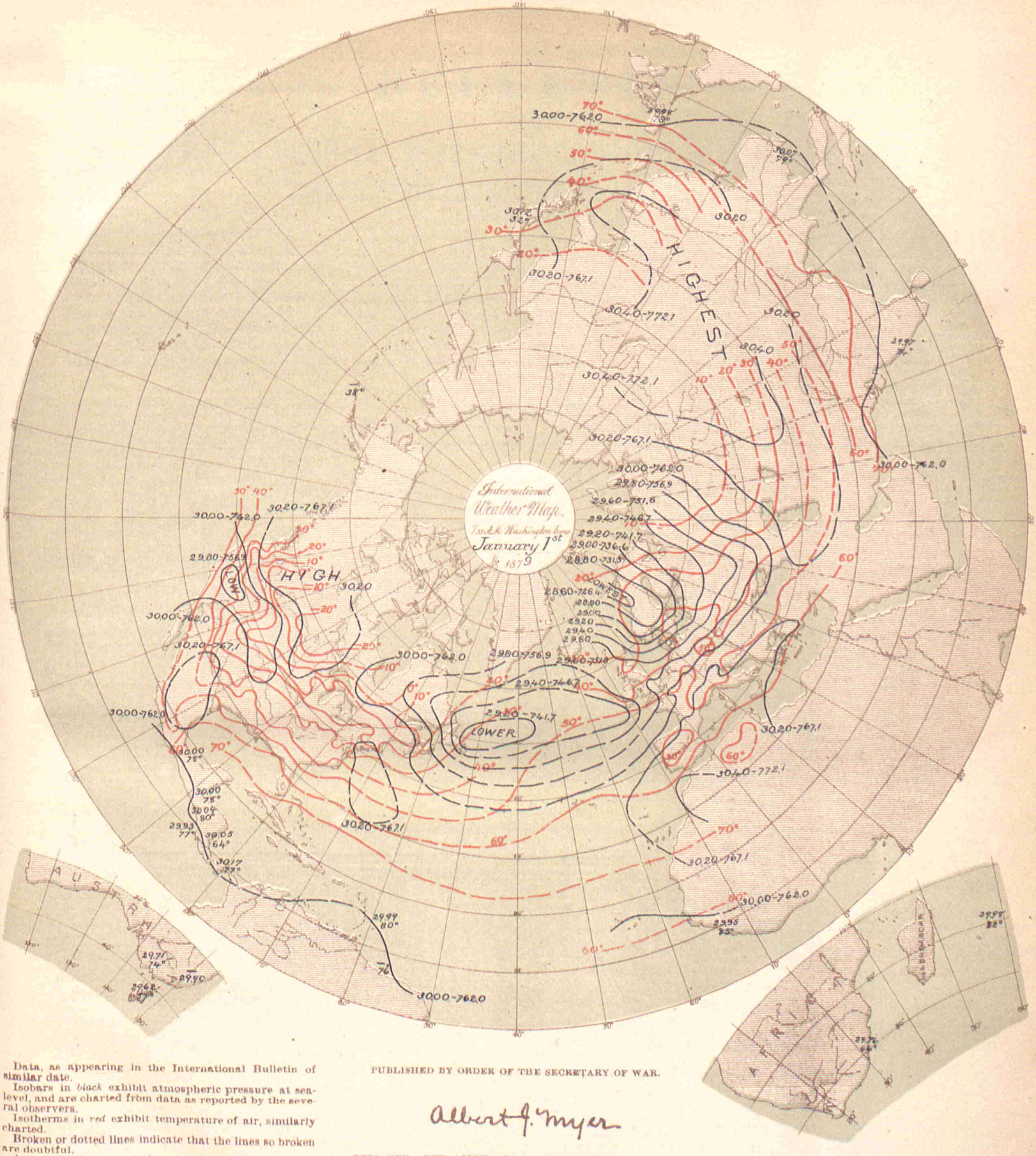
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO., 330 DEVONSHIRE ST., BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 2, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.40	772.2	62.8	17.1	81	Calm	.....	.....	0	.....	1	.....	.....	0	0	Very fair.....	
Nemours	.....	.....	30.30	769.7	65.7	18.7	60	E	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Kesxuche.
Algiers	.....	.....	30.23	767.9	63.6	17.2	72	Calm	.....	.....	0	.....	8	.....	.....	0	0	Very cloudy	Tourillere.
La Calle	.....	.....	30.27	768.8	64.0	17.8	56	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Foufrede.
Tunis	.....	.....	30.21	767.4	66.0	18.9	47	NW	.....	.....	4	.....	10	.....	.....	0	0	Covered.....	Jacques.
Sfax	.....	.....	30.34	770.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gac.
Saida	.....	.....	30.24	768.0	64.0	17.8	47	S	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	30.26	768.5	63.0	17.2	35	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	30.20	767.0	59.5	15.3	63	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Brugniaux.
Laghouat	.....	.....	30.25	768.4	61.5	16.4	43	ENE	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Bertrand.
Biskra	.....	.....	30.34	770.7	66.4	19.1	86	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.17	740.8	29.71	754.7	52.7	11.5	76	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.68	728.5	29.45	747.9	47.8	8.8	63	WSW	.....	.....	3	.....	10	.....	.....	0.110	2.8	.....	Dr. Wierzbiski
Eperies	28.69	728.6	29.59	751.1	36.7	2.6	96	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.42	721.8	29.69	754.2	38.1	3.4	76	WNW	.....	.....	2	.....	4	.....	.....	0.012	0.3	.....	Andreas Rospini
Hermannstadt	28.35	720.1	29.80	756.9	42.8	6.0	87	SE	.....	.....	1	.....	10	.....	.....	0.242	6.15	.....	Prof. A. Gottschlug.
Kremsmünster	28.31	719.2	29.66	753.4	46.6	8.1	86	WNW	.....	.....	3	.....	10	.....	.....	0.252	6.4	.....	Prof. C. Wagner.
Lemberg	28.46	722.9	29.45	748.1	42.1	5.6	77	SW	.....	.....	2	.....	6	.....	.....	0.067	1.7	.....	Dr. T. Stanecki.
Pola	29.69	754.0	29.80	756.9	55.8	13.2	83	S	.....	.....	4	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.23	742.4	29.70	754.3	45.3	7.4	80	S	.....	.....	2	.....	10	.....	.....	0.102	2.6	.....	Julius Csics, S. J.
Szegedin	29.46	748.3	29.75	755.6	43.2	6.2	91	S	.....	.....	3	.....	8	.....	.....	0.713	18.10	.....	Karl Stancel.
Trieste	29.72	754.8	29.82	757.4	47.8	8.8	98	Calm	.....	.....	0	.....	10	.....	.....	2.334	59.3	Rain and fog	P. Busin.
Vienna	28.89	733.8	29.60	751.8	54.1	12.3	42	W	.....	.....	3	.....	6	.....	.....	0.047	1.2	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.1 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.70	754.4	29.80	756.9	31.0	— 0.6		W	12	5.4			4			0.040	1.02		W. Boswell.
Ardrossan	29.87	758.7	29.89	759.2	39	3.9		WNW			3		7					D. clouds	George Carrick.
Armagh, Observatory			30.03	762.7	34.0	1.1		SSW	14	6.3			1					D. clouds	S. Call.
Bidston, (Liverpool Obs.)			30.02	762.5	37.3	2.9		WSW	17	7.6								Blue sky	John Hartnup.
Folton			30.04	763.0	36.7	2.6		WSW	96.0	42.9		0						Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.59	751 6	29.98	761.5	35.7	2.1		W			3		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	80	26.7		NE			2		3					D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory			30.07	763.8	31.5	— 0.3		WNW			1		1			0.650	16.51	D. clouds	H. Todd. [C.
Cardington			30.12	765.0	26.6	— 3.0		SW?			0?		2					Blue sky	John McLaren.
Chatham, School M. E.	29.97	761.2	30.11	764.8	33.2	0.7		Calm			0		5					D. clouds	Lt. W. G. Morris, R.E.
Dartmoor	28.57	725.7	30.10	764.5	32.0	0.0		E			2		6					Fine	Alexander Watt.
Donaghadee	29.95	760.7	30.00	762.0	32	0.0		W			3		5					D. clouds	J. Mac Gowan.
Dover	30.06	763.5	30.09	764.3	34	1.1		N			3		7					¾ covered	J. Costello.
Falmouth, Observatory	29.89	759.2	30.13	765.3	41.4	5.2		SSE			1		10					Overcast	The Staff.
Fort Napier, (Natal)	27.44	697.0	29.75	755.6	75.5	24.2		N			4		6					D. clouds	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.63	752.6	29.86	758.4	80	26.7		E			2		4					D. clouds	
Galway, Queen's College			29.99	761.7	33	0.6		SE			2		8					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.22	767.6	30.27	768.8	61.2	16.2		W			3		1					Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.67	753.6	29.88	758.9	35.0	1.7		WSW			3		5					D. clouds	D. G. Maclean.
Great Yarmouth	29.99	761.7	29.99	761.7	36	2.2		NW			3		3					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.94	760.5	30.12	765.0	30.6	— 0.8		W			1		5					Foggy	The Staff, or G. B. Airy
Guernsey	29.91	759.7	30.14	765.5	40	4.4		NNW			1		3					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	30.00	762.0	30.12	765.0	45	7.2		N			1		6k			0.96	24.4	Gloomy	M. P. Moyle.
Holyhead	30.00	762.0	30.05	763.3	38	3		WSW			3		5					Blue sky	John Tilston.
Jersey																			J. Fisher.
Kew, Observatory	30.09	764.3	30.12	765.0	32.8	0.4		WNW	8	3.6			2					Misty	The Staff.
Kingstown	30.05	763.3	30.08	764.0	35	1.7		WNW			1		8					Foggy	George Mitchell.
Leicester, Museum	29.80	756.9	30.07	763.8	34.0	1 1		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.14	765.5	30.22	767.6	62	16.7		SW			1		3k					Blue sky	Sergt. Beckett, A. H. C.
Nairn	29.68	753.9	29.78	756.4	30	— 1.1		NW			1		10					Snowing	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	69.8	21.0		SE			1		6					Blue sky	C. S. Duncombe.
Nottingham, Observatory	29.83	757.7	30.02	762.5	36.1	2.3		SW			3		0			0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.52	749.8	30.07	763.8	31.0	— 0.6		SW			2		5					Hazy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.10	764.5	29	— 1.7		W			1		6					D. clouds	H. E. Bellamy.
Plymouth	30.06	763.5	30.14	765.5	37.2	2.9		E			2		0					Blue sky	John Merrifield.
Roche's Point	30.01	762.2	30.06	763.5	37	2.8		NNE			1		10					Covered	W. Kennedy.
Saint Ann's Head	29.92	760.0	30.08	764.0	38	3.3		SE			2		5					D. clouds	John C. Walker.
Sandwick Manse, (Orkneys.)													8					Hail & rain	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			29.69	754.1	28.8	— 1.8		NW	31	13.9			9			Blank	Blank	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.73	755.1	30.05	763.3	53.6	12.0		S			1		1			0.15	3.8	Blue sky	W. F. Cooper.
Silloth Rectory	29.92	760.0	30.02	762.5	35.7	2.1		WSW			3		5			0	0	D. clouds	F. H. Redford.
Stonyhurst, Observatory	29.55	750.6	29.95	760.7	35.3	1.8	.91	SW			4		10					Gloomy	Rev. S. J. Perry.
Stratfield Turgiss	29.90	759.4	29.96	761.0	36.2	2.3		SW			2		0					Blue sky	Rev. C. H. Griffith, F.M.S
Thurso	29.67	753.6	30.13	765.3	32.3	0.2		N			0–1		5					D. clouds	John Trotter.
Truro, Royal Institution			29.73	755.1	32	0.0		NW			4		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.97	761.2	30.10	764.5	42	5.6		SE			4		10					D. clouds	The Staff.
Sub-Series.			29.99	761.7	39.3	4.1		E	18	8.0									
Hobart Town, (Tasmania)			29.87	758.7	60.0	15.6	69	NW			3		10kn			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.88	758.9	34.1	1.2		W			2		9ck			0.02	0.5		Andrew Gibb.
Mauritius, Observatory	29.77	756.1	29.96	761.0	81.3	27.4	54	E	17.0	7.6		2	2		ESE	0.08	2.0	Squally	C. Meldrum.
Melbourne, Observatory	29.81	757.2	29.90	759.4	55.2	12.9	74	W	10	4.5			0			0.09	2.3	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.82	757.4	33	0.6		NW			6	10?	5?	NW		0	0		J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	OBSERVER.
Brig Catherine,				Capt. Alex. Wilson.
Barque Commewyne				Capt. A. Buchan.
S. S. Gordon Castle,				Capt. W. Waring.
Barque Margaret Smith, N. 50° 15′, W. 10° 10′	6	SSW	Drizzling	Capt. D. W. A. Quaile
Schooner Traveller				Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	57.2	14.0	69	SE	.....	.....	2	.....	.....	.....	.....	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.36	745.8	29.41	747.0	33.4	0.8	82	NW	.....	.....	6	.....	0	.....	.....	.....	.....	.....	
Fanöe	29.54	750.3	29.56	750.8	32.7	0.4	80	WNW	.....	.....	6	.....	5	.....	.....	.....	.....	Hailing	
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vestervig	29.44	747.8	29.61	752.1	30.9	— 0.6	88	NW	.....	.....	7	.....	10	.....	.....	.....	.....	Snowing	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	29.62	752.4	30.17	766.4	41.0	5	93	N	.....	.....	4	.....	5	.....	N	0.346	8.8	Cloudy	Collignon, Director.
Amiens, Normal School	29.95	760.8	30.06	763.6	41.7	5.4	71	NW	.....	.....	3	.....	5	.....	E	0	0	Cloudy	Bonvallet, Director.
Avignon, Normal School	30.03	762.7	30.11	764.7	55.9	13.3	64	S	.....	.....	1	.....	2	.....	NNW	0	0	Slightly cl'dy	M. Giraud, Director.
Bar-sur-Seine	29.52	749.7	30.10	764 6	39.9	4.4	89	N	.....	.....	2	.....	10	.....	W	0.559	14.2	Covered	C. Saillard, Director.
Beauvais, Normal School	29.83	757.6	30.12	765.1	41.0	5	60	NNW	.....	.....	2	.....	8	.....	N	0.35	9.	Very cloudy	Frere Eugene Marie, Director.
Besançon, Normal School	29.02	737.0	29.92	759.9	48.7	9.3	81	SW	.....	.....	6	.....	10	.....	SW	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.13	740.0	30.05	763.2	53.8	12.1	86	S	.....	.....	1	.....	10n	S	S	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.86	758.4	30.10	764.6	46.4	8.0	80	S	.....	.....	1	.....	10	.....	Calm	0.187	4.75	Misty	M.de Rermaur, Director.
Carcassonne, Normal School	29.78	756.5	30.20	767.1	56.8	13.8	58	W	.....	.....	3	.....	2	.....	W	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Lair, Director.
Chartres, Normal School	29.36	745.7	29.92	760.0	50.4	10.2	89	W	.....	.....	3	.....	10	.....	S	0.106	2.7	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.354	9.0	.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.7	30.05	763.2	56.1	13.4	62	WSW	.....	.....	6	.....	5	.....	W	0.177	4.5	Cloudy	Alluard, Director.
Commercy, Normal School	29.01	736.8	29.91	759.8	41.0	5	84	W	.....	.....	4	.....	10kn	.....	W	0.47	12.	Covered	Fr. Coulet, Director.
Commune de Gréasque*	29.03	737.3	30.17	766.3	52.0	11.1	68	W	.....	.....	4	.....	8	NW	NE	0	0	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.31	744.4	30.08	764.1	52.2	11.2	63	NW	.....	.....	1	.....	10	W	.....	.....	.....	Raining	M. Ablard, Director.
La Roche-sur-Yon, N. School	30.00	762.1	30.23	767 8	46.4	8.0	91	WNW	.....	.....	1	.....	10	.....	.....	0.063	1.6	Covered	Mouillot, Director.
Le Mans, Normal School	29.71	754.6	30.03	762.8	42.8	6	78	NE	.....	.....	2	.....	5	.....	NE	0.453	11.5	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.15	740.3	30.08	764.0	47.7	8.7	81	SW	.....	.....	6	.....	10	.....	W	.....	.....	Covered	Baudry, Director.
Lorient, Naval Observatory	30.10	764.4	30.20	767.0	46.8	8.2	83	SE	.....	.....	2	.....	.....	.....	SW	0.362	9.2	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	28.86	733.0	29.93	760.3	43.3	6.3	97	NE	.....	.....	4	.....	n	.....	WNW	0.39	10.	.....	M. Barbier, Director.
Nismes, Normal School	29.97	761.2	30.21	767.4	54.3	12.4	45	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.14	638.6	.....	.....	31.6	— 0 2	100	W	.....	.....	10	.....	.....	.....	.....	0.169	4.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.19	766.9	30.23	767.7	52.2	11.2	85	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.06	763.4	30.14	765.6	41.5	5.3	61	NNW	.....	.....	2	.....	2	.....	N	0.472	12.0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port)	29.95	760.7	29.98	761.4	39.9	4.4	73	NNE	.....	.....	2	.....	8	NNE	NNE	0.175	4.45	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.96	761.0	30.13	765.2	40.6	4.8	67	NNW	.....	.....	2	.....	.....	.....	NNW	0.248	6.3	.....	E. Reaol, Director.
Tarbes, Normal School	29.20	741.6	30.28	769.0	59.0	15	58	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.92	759.9	29.95	760.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.02	762.6	53.8	12.1	65	WNW	.....	.....	4	.....	4	.....	.....	0.020	0.5	Cloudy?	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	25.01	635.2	30.32	770.2	45.5	7.5	37	SW	24.2	10.8	.....	.....	.....	.....	.....	.....	.....	.....	M. Cave.
Nice	.....	.....	29.91	759.6	61.7	16.5	46	W	.....	.....	10	.....	0	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.84	757.8	.....	.....	40.5	4.7	68	NW	.....	.....	3	.....	10	.....	NNW	0.268	6.8	.....	Marié Davy, Director
Perpignan	30.12	765.0	30.23	767.7	60.3	15.7	41	NW	31.8	14.2	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade,) H. P.	22.68	576.0	.....	.....	31.1	— 0.5	.....	SW	.....	.....	3	.....	1	.....	.....	0	0	Clear	Gen'l de Lansouty.
Toulouse, Observatory	29.59	751.6	30.32	770.1	53.6	12.0	67	W	.....	.....	4	.....	4	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	29.99	761.7	30.19	766.7	44.6	7.0	75	W	.....	.....	2	.....	10	.....	WNW	0.555	14.1	.....	C. Marquet.
Versailles Observatory	.....	.....	30.12	765.1	41.0	5.0	.....	N	.....	.....	1	.....	10	.....	.....	0.293	7.46	Covered	Dr. A. Berigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.36	771.2	30.39	771.8	30.4	— 0.9	96	SSE	4.5	2.0	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.74	730.1	29.58	751.2	45.1	7.3	89	WSW			7		9	W		0.059	1.5	Raining	Prof. Dr. Hoh.
Berlin	29.47	748.4	29.64	752.9	35.4	1.9	75	NW			4		8			0.390	9.9		Prof. Arndt.
Breslau	28.96	735.5	29.48	748.8	34.7	1.5	88	NNW			7		10			0.151	3.84		Royal University Obs'y
Carlsruhe	29.30	744.3	29.73	755.2	46.8	8.2	95	SW			8		10	SW		0.358	9.1	Light rain	Albert Senz.
Cassel	29.17	741.0	29.78	756.3	34.7	1.5	84	NNW			5		8	NW		0	0		Dr. H. Möhl.
Crefeld	29.73	755.2	29.89	759.3	38.3	3.5	71	NW			4		9			1.38	35.		Director Lose.
Emden					34.5	1.4	93	WNW			3		5			0.073	1.8		Prof. Prestel.
Frankfort on the Main	29.41	747.0	29.78	756.4	39.0	3.9		NNE			4		9			0.354	9.0		Physical Society.
Friedrichshafen	28.34	719.8	29.79	756.6	44.2	6.8	75	WSW			8		10	W		0.181	4.6	Raining	M. Wilhelm.
Hamburg	29.59	751.6	29.66	753.4	36.0	2.2	93	WNW			3		1k			0.024	0.6	Clear	Captain F. Hegemann
Kiel	29.61	752.0	29.62	752.4	35.8	2.1	73	NW			5		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.26	743.3	29.35	745.4	33.1	0.6	88	W			3		2			0.047	1.2		Prof. E. Luther.
Köslin			29.42	747.2	34.0	1.1		W			4		2			0	0		H. Müller.
Leipsic, Observatory	29.14	740.2	29.58	751.2	32.4	0.2	100	NNW			2		10			0.394	10.0	Light snow	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.24	742.6	29.28	743.7	36.1	2.3	69	WSW			7		8s						Skalweit.
Neufahrwasser	29.37	746.0	29.39	746.4	33.6	0.9	85	W			3		4			0.008	0.2		A. Lothes.
Posen	29.24	742.8	29.54	750.4	30.6	— 0.8	100	NW			6		9			0.177	4.5	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.21	742.0	29.76	756.0	50.0	10.0	82	NW			2		10	WNW		0.167	4.25	Raining	Imp. University Observatory.
Stuttgart	28.71	729.2	29.65	753.1	48.2	9.0	70	SW			5		10			0.118	3.0	Raining	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.12	714.2	29.64	752.9	43.7	6.5	84	W	15.7	7			10		W	0.004	0.1	Rainy	Dr. Van Bebber.
Wustrow, Naval School	29.52	749.7	29.55	750.6	35.2	1.8	73	N			5		3s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.73	755.2	30.13	765.2	57.9	14.4		SW			1.5								
																		Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.91	759.7	29.96	761.0	72.1	22.8	53	NNE	9.0	4.0			0			0	0	Blue sky	
Deesa	29.63	752.5	30.11	764.9	75.7	24.3	25	NNW					0			0	0	Blue sky	
Bombay	29.93	760.1	29.96	761.1	77.1	25.1	74	NW	18.0	8.0			3	NW		0	0	D. clouds	
Poona	27.94	709.8	29.96	760.9	77.5	25.3		E					0			0	0	Blue sky	
Lahore	29.38	746.2	30.16	766.2	57.6	14.2	47	Calm	0.6	0.3			8			0	0	Cloudy	
Belgaum	27.42	696.4	29.99	761.7	71.4	21.9	41	E	9.0	4.0			1			0	0	D. clouds	
Roorkee	29.16	740.8	30.10	764.6	62.8	17.1	52	NW	1.1	0.5			2			0	0	D. clouds	
Agra	29.54	750.2	30.13	765.4	58.8	14.9	48	NE					0			0	0		
Nagpur	29.01	736.7	30.08	763.9	70.9	21.6	39	Calm	2.9	1.3			4			0	0	D. clouds	
Lucknow	29.72	754.8	30.11	764.7	62.4	16.9	54	Calm	0.8	0.4			0			0	0	Blue sky	
Allahabad	29.79	756.7	30.12	765.0	63.1	17.3	78	Calm	0.4	0.2			0			0	0	Blue sky	
Patna	29.90	759.3	30.08	764.1	66.8	19.3	78	Calm	0.1	0.04			0			0	0	Blue sky	
Hazaribagh	28.01	711.5	30.10	764.5	63.8	17.7	53	NW	3.1	1.4			1			0	0		
Cuttack	29.97	761.3	30.06	763.5	70.1	21.2	64	NNE	1.8	0.8			2			0	0	D. clouds	
Calcutta (Alipore)	30.05	763.2	30.07	763.8	66.7	19.3	75	W	0.5	0.2			2			0	0	D. clouds	
Goalpara					67.8	19.9	73	ESE	5.2	2.3			10			0	0	Overcast	
Chittagong	29.98	761.4	30.07	763.8	71.6	22.0	83	Calm	1.5	0.7			9			0	0		
Sibsagar	29.77	756.2	30.12	765.1	62.0	16.7	88	ENE	1.5	0.7			10	W	W	0	0	Overcast	
Jubbulpore	28.68	728.4	30.08	764.1	67.9	19.9	41	NE	2.3	1.0			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.40	746.7	29.82	757.5	43.3	6.3	95	Calm	0	0	.....	.....	10	.....	.....	0.276	7.0	.....	Prof. Giovanni Clodig.
Padua	29.72	754.9	29.84	757.8	41.7	5.4	98	NW	4.3	1.9	.....	.....	10	.....	.....	0.079	2.0	.....	Prof. Dott. Lorenzoni
Vicenza	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cont. Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	29.33	744.9	29.87	758.6	41.0	5.0	94	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.97	735.7	29.91	759.7	39.2	4.0	98	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.91	709.0	29.89	759.2	46.2	7.9	58	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Vassallo.
Genoa	29.67	753.7	29.87	758.7	57.0	13.9	79	SE	4.9	2.2	.....	.....	0	.....	.....	0.165	4.2	.....	Prof. G. M. Garibaldi.
Parma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Pigorini.
Florence	29.67	753.5	29.93	760.2	55.0	12.8	73	SW	.....	.....	6	.....	9	W	.....	0.039	1.0	.....	Cav. F. Meucci
Leghorn	29.82	757.5	29.91	759.7	56.5	13.6	76	W	7.4	3.3	.....	.....	4	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.77	756.1	29.82	757.4	55.8	13.2	73	S	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Serpieri
Rome	29.87	758.7	30.05	763.3	55.2	12.9	86	W	7.4	3.3	.....	.....	10	.....	.....	0.039	1.0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Palmieri.
Lecce	29.81	757.2	30.07	763.7	57.0	13.9	79	WSW	11.2	5.0	.....	.....	7	S	.....	0.020	0.5	.....	Prof. C. De Giorgi.
Cagliari	29.91	759.6	30.10	764.5	59.5	15.3	72	NW	.....	.....	4	.....	4	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.22	742.2	30.12	765.1	57.0	13.9	79	SW	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.89	759.1	30.14	765.6	63.3	17.4	56	SW	17.4	7.8	.....	.....	8	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.15	765.7	30.22	767.5	59.0	15.0	68	WSW	3.8	1.7	.....	.....	4	W	.....	0	0	.....	Prof. V. Cumbo.
SUB-SERIES.																			
Naples, S. R.	29.51	749 6	30.07	763.7	55.9	13.3	93	WSW	2.5	1.1	.....	.....	7	.....	.....	0.071	1.8	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.29	769.3	30.31	769.9	36.8	2.7	91	NNE	8.4	3.8	.....	.....	5ck	W	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.13	765.3	30.34	770.6	41.0	5.0	97	Calm	0	0	.....	.....	7ks;s	.....	W	0.060	1.52	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.10	764.5	30.17	766.3	36.5	2.5	79	WSW	6.3	2.8	.....	0	0	.....	.....	0	0	Very clear.	The Staff.
Tokei (Yeddo) University	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. T. C. Mendenhall.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.4	30.30	769.6	45.0	7.2	65	SW	.....	.....	1	0	2ks	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.49	622.2	30.15	765 9	55.6	13.1	72	SW	.....	.....	1	1c	0	Calm	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.5	30.25	768.3	48.6	9.2	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	50.5	10.3	64	SW	.....	.....	1	1ck	3ks	SW	SW	0	0	½ clouded	M. V. de Leon, M. E
Tlacotalpam	30.05	763.3	30.06	763.6	69.1	20.6	93	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	M. M. Cházaro.
San Luis Potosi	24.22	615.1	30.00	762.3	57.0	13.9	77	NNW	.....	.....	.....	7	2	N	NNW	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	30.09	764.1	30.12	764.8	72.5	22.5	87	Calm	0	0	.....	.....	10sk	.....	N	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.64	575.0	.....	.....	51.8	11	79	SSW	.....	.....	3	5	0	S	.....	.....	.....	Cloudy	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.41	594.5	30.18	766.5	51.3	10.7	35	ENE	0.9	0.4	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.45	722.6	30.12	765.0	71.6	22.0	77	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	R. B da, C. E.
San Juan E. Michapam	29.93	760 2	30.06	763.6	73	22.8	.....	Calm	.....	.....	0	7n	3n	.....	.....	0	0	Covered	Antonio Guerra y Guerra.
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NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.00	762.0	30.00	762.0	39.6	4.2	.....	WNW	.....	.....	.....	.....	.....	.....	.....	0.807	20.5	.....	
Groningen	.....	.....	.....	.....	.....	.....	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.86	758.5	29.86	758.5	36.1	2.3	.....	WNW	.....	.....	5	.....	.....	.....	.....	0.016	0.4	.....	
Hellevoetsluis	29.97	761.1	29.97	761.1	36.7	2.6	80	WNW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.86	758.5	29.91	759.7	36.5	2.5	82	NNW	.....	.....	2	.....	8	.....	.....	0.335	8.5	Very cloudy	H. v. d. Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.19	741.4	29 24	742.8	32.0	0.0	74	NNW	28.9	12.9	.....	.....	4	.....	.....	0.055	1.4	Snowing.. ..	
Brönö	28.81	731.7	28.85	732.7	33.1	0.6	85	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiania	28.80	731.5	28.95	735.2	34.2	1.2	85	NNW	18	8	.....	.....	10	.....	.....	0.016	0.4	.....	
Tromsö	28.97	735.9	29.02	737.0	32.9	0.5	76	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.72	755.0	29.92	759.9	58 5	14.7	84	WSW	13.7	6.1	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.35	745.5	30.40	772.2	47.7	8.7	97	E	6.3	2.8	.....	.....	10	E	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.21	767.2	30.29	769.4	67.8	19.9	64	SW	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	30.00	762.0	30.36	771.2	57.2	14.0	79	ENE	7.4	3.3	.....	.....	7	.....	.....	0.012	0.3	.....	The Staff.
Ponta Delgada, (Azores)	29.92	760.0	29.99	761.8	64.4	18.0	78	WSW	18.1	8.1	.....	.....	5	.....	.....	0.268	6.8	.....	

NOTE.—The originals give the wind-velocity in kilometers per hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h. a. m.

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Lima, Capt. da Silva Costa,				
Porto Praya, Cape Verd Ids	2	ESE	D. clouds	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Quanza, Atlantic.				
St. Thomas Id., Gulf or Guinea, S. At.	2	SSE	D. clouds	A. J. de Mattos, Com'd't.
Sá da Bandeira,				
Saint Paul de Loanda	0	.....	D. clouds	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo,				
Macao, China	0	.....	Blue sky	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	28.85	732.9	29.28	743.6	38.8	3.8	98	SSW	4	2	.....	.....	10n	.....	.....	.....	.....	Raining	Astronomical Obs.
Wilna	28.95	735.3	29.38	746.2	34.2	1.2	85	SSW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	28.89	733.8	29.14	740 1	28.4	— 2.0	82	SW	11	5	.....	.....	4n;k	.....	.....	.....	.....	Snowing....	Prof. Dr. Weihrauch.
St. Petersburg	29.11	739.5	29.13	739.9	29.5	— 1.4	80	SW	16	7	.....	.....	2ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.00	736.6	29.65	753.1	36.3	2.4	87	SSW	9	4	.....	.....	10ks; c;n]	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.81	757.2	29.88	759.0	44.1	6.7	99	S	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.98	761.4	30.00	761.9	48.2	9.0	87	NW	0	0	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.93	734.8	29.49	749.1	34.2	1.2	89	S	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.47	748.6	29.68	753.9	36.7	2.6	85	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.35	745.4	29.37	745.9	20.8	— 6.2	93	ESE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.67	728.2	30.16	766.1	32.7	0.4	68	NW	9	4	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.04	763.1	29.96	761.0	38.3	3.5	93	S	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.14	740.2	29.63	752.7	26.2	— 3.2	92	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.35	745.5	29.63	752.7	21.2	— 6.0	98	ESE	4	2	.....	.....	10	.....	.....	.....	.....	Snowing....	Physical Cabinet.
Ekaterinburg	28 95	735.2	29.99	761.8	8.1	—13.3	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing....	Meteorological Obs.
Nukuss	29.95	760.7	30.19	766.8	39.2	4.0	67	E	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.77	730.7	30.58	776.7	33.1	0.6	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.90	759.4	30.50	774.6	— 4.4	—20.2	85	Calm	20	9	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.34	770.6	30.67	779.0	— 7.1	—21.7	89	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.03	762.7	30.17	766.3	26.2	— 3.2	51	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.73	755.2	29.82	757.4	—19.5	—28.6	.....	W	2	1	.....	.....	3k	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness wtihout distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.13	765.3	30.24	768.0	58 1	14.5	56	E	2.8	1.25	.....	.....	.....	.....	.....	0	0	Clear.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.27	768.8	30.32	770.2	59.2	15.1	67	SE	4.6	2.04	.....	2	1	E	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.39	695.8	.....	.....	45.3	7.4	84	SW	9.1	4.06	.....	.....	6	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.14	714.8	.....	.....	42.4	5.8	89	N	4.7	2.11	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.13	765.3	30.28	769 1	70.5	21.4	45	SW	2.9	1.28	.....	.....	1	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.85	745.4	30.25	768.3	55.2	12.9	74	SW	8.7	3.9	.....	5	0	.....	.....	0.350	8.9	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.06	763.4	30.12	765 1	66.1	18.9	89	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands,	29.92	760.0	29.97	761.3	77.9	25.5	79	N	0.7	0.3	.....	0	2	.....	NE	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.23	767.8	30.33	770.3	55.2	12.9	85	N	0	0	.....	2	3	E	N	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.97	761.3	30.07	763.6	74.5	23 6	90	SE	0	0	.....	2c	1k	E	E	0.030	0.75	Clear.....	Leonardo de Tejeda, Ch'f Eng'e

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—.	Rain fall or melted snow in the past 24 hours. Inches.	Rain fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.97	735.7	29.00	736.7	33.1	0.6	.....	E	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	
Umea	28.80	731.6	28.85	732.9	30.2	— 1.0	100	SE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	28.67	728.3	28.72	729.6	30.9	— 0.6	81	NE	.....	.....	4	.....	10	.....	.....	0.181	4.6	Raining	
Stockholm	28.61	726.6	28.78	731.1	25.9	— 3.4	95	WSW	.....	.....	7	.....	10	.....	.....	0.008	0.2	.....	
Wisby	28.98	736.2	29.04	737.7	33.8	1.0	81	WNW	.....	.....	8	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	28.70	728.9	28.77	730.8	24.4	— 4.2	100	WSW	20.6	9.2	.....	.....	10	.....	.....	0.065	1.65	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.60	726.4	30.06	763.4	44.2	6.8	92	SSW	.....	.....	6	.....	10	.....	.....	0.240	6.1	Raining	The Observatory.
Zurich	28.19	716.0	29.86	758.5	43.5	6.4	84	W	.....	.....	8	.....	10	.....	.....	0.433	11.0	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.3 mm.; Thermometer, +5.3 cent.; Relative Humidity, +12 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.11	764.8	53.1	11.7	71	S	7	3.0	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.4	59.9	15.5	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.05	763.3	30.17	766.2	61.5	16.4	57	NW	.....	.....	1	.....	3ck;ks;	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.16	740.6	29.48	748.8	20	— 6.7	.....	E	1	0.4	.....	.....	10n	.....	E	0.10	2.5	Light snow.	W. R. Bigg.
*Chatham, N. B	29.74	755.4	29.81	757.2	4	—15.6	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.74	755.4	29.79	756.7	14	—10.0	91	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.23	742.4	29.44	747.8	16.5	— 8.6	100	E	.....	.....	1	.....	10n	.....	.....	0.05	1.3	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.06	763.5	30.10	764.5	32.6	0.3	95	Calm	.....	.....	.....	9cs	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.80	756.9	29.82	757.4	1	—17.2	68	S	5	2.2	.....	5c	0	Calm	.....	0	0	Clear?	J. McWilliams.
Fredericton, N. B	29.78	756.4	29.86	758.4	— 4.9	—20.5	100	Calm	0	0	.....	2c	0	.....	.....	Inap.	Inap.	Fair	Prof. Harrison.
*Fort Garry, Manitoba	29.49	749.0	30.49	774.4	—26	—32.2	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.41	721.6	29.60	751.8	8	—13.3	.....	W	.....	.....	3	.....	10n	.....	.....	0.20	5.1	Snowing	James Grant.
*Halifax, N. S	29.67	753.6	29.82	757.4	13	—10.6	83	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.16	740.6	29.55	750.6	21.0	— 6.1	94	W	.....	.....	3	8ck	0	W	.....	0.08	2.0	Snowing	Geo. Dickson, M. A.
Heart's Content, N. F	29.38	746.2	29.40	746.7	30	— 1.1	100	NW	.....	.....	5	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.06	738.1	29.40	746.7	27	— 2.8	93	S	13	5.8	.....	.....	10n	.....	S	0.06	1.5	Light snow	S. Woods, M. A.
Little Glace Bay, N. S	29.68	753.9	29.72	754.9	22.4	— 5.3	92	W	6	2.7	.....	3k	0	W	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.34	745.2	29.55	750.6	18	— 7.8	84	SE	13	5.8	.....	.....	10n	.....	.....	0.01	0.3	Light snow	C. U. McLeod, C. E.
Moose Factory, Ontario	29.72	754.9	29.76	755.9	— 6.1	—21.2	96	N	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	J. R. Nason.
*Parry Sound, Ontario	28.62	726.9	29.34	745.2	23	— 5.0	99	SW	19	8.5	.....	.....	10n	.....	W	0.30	7.6	Light snow.	Rev. R. Mosley.
Peterboro, Ontario	28.67	728.2	29.45	748.0	20.4	— 6.4	98	W	.....	.....	.....	.....	10ks	.....	.....	.....	.....	Light snow	J. F. Jeffers, B. A.
Port Dover, Ontario	28.85	732.8	29.58	751.3	17	— 8.3	100	W	18	8.0	.....	.....	10n	.....	.....	0.10	2.5	Light snow.	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	28.96	735.6	29.65	753.1	13	—10.6	96	W	21	9.4	.....	.....	10n	.....	W	0.10	2.5	Light snow.	M. Payne.
*Quebec, Quebec	29.44	747.8	29.79	756.7	11	—11.7	89	E	.....	.....	3	.....	10n	.....	NE	0.02	0.5	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	28.94	735.1	29.42	747.2	18	— 7.8	84	E	8	3.6	.....	.....	10s	.....	E	0.21	5.3	Light snow.	W. H. McIntyre.
St. Andrews, N. B	29.76	755.9	29.81	757.2	16	— 8.9	86	NE	.....	.....	2	0	0	.....	.....	0	0	Clear	Dr. Grove.
St. John, N. B	29.66	753.4	29.82	757.4	11	—11.7	100	NW	2	0.9	.....	0	5k	.....	.....	0.14	3.6	Fair	G. Murdock, C. E.
*Saugeen, Ontario	28.70	729.0	29.45	748.0	18	— 7.8	97	W	31	13.9	.....	.....	10s	.....	.....	0.10	2.5	Cloudy	K. Stewart.
Stayner, Ontario	28.60	726.4	29.42	747.2	19	— 7.2	83	W	14	6.3	.....	.....	10n	.....	W	0	0	Threatening	R. J. Cole.
Stratford, Ontario	28.18	715.8	29.57	751.1	7.2	—13.8	95	W	24	10.7	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.69	754.1	29.73	755.1	23	— 5.0	82	W	14	6.3	.....	2k	0	W	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.09	738.9	29.49	749.0	22	— 5.6	97	SW	16	7.2	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	Magnetic Observatory.
Windsor, N. S	29.71	754.6	29.81	757.2	5	—15.0	75	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	31.0	— 0.6	89	SW	.....	.....	.....	4c	4s	.....	.....	0.16	4.1	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Albany, New York	29.37	746.0	29.61	752.1	21	— 6.1	86	S	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Alpena, Michigan	28.81	731.8	29.49	749.0	9	—12.8	78	W	20	8.9	.....	.....	10s	.....	W	0.10	2.5	Cloudy.....	
Atlanta, Georgia	28.84	732.5	30.02	762.5	40	4.4	73	NW	24	10.7	.....	.....	10s	.....	NW	0.09	2.3	Cloudy.....	
Atlantic City, New Jersey	29.56	750.8	29.57	751 1	33	0.6	100	E	3	1.3	.....	.....	10n	.....	Calm	0.17	4.3	Light rain...	
Augusta, Georgia	29.81	757.2	29.99	761.7	45	7.2	84	SW	6	2.7	.....	.....	10s	.....	SW	0.03	0.8	Cloudy.....	
Baltimore, Maryland	29.60	751.8	29.65	753.1	32	0.0	95	NE	2	0.9	.....	.....	10n;fg	.....	Calm	0.16	4.1	Light rain...	
Barnegat, New Jersey	29.56	750.8	29.59	751.6	36	2.2	100	E	9	4.0	.....	.....	10n	.....	Calm	0.19	4.8	Light rain...	
Bismarck, Dakota	28.45	722.6	30.31	769.9	—28	—33.3	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Boerne, Texas	28.79	731.2	30.20	767.1	32	0.0	89	NE	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy.....	
Boise City, Idaho	27.28	692.9	30.24	768.1	13	—10.6	62	SE	4	1.8	.....	2k	0	Calm	.....	0	0	Fair.....	
Boston, Massachusetts	29.52	749.8	29.68	753.9	26	— 3.3	75	N	1	0.4	.....	.....	10n	.....	E	Inap.	Inap.	Light snow..	
Brackettville, Texas	29.07	738.4	30.15	765.8	37	2.8	81	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy.....	
Breckenridge, Minnesota	29.28	743.7	30.50	774 7	—29	—33.9	89	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Brownsville, Texas	30.09	764.3	30.16	766.1	58	14.4	94	NE	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Buffalo, New York	28.78	731.0	29.50	749.3	23	— 5.0	86	SW	24	10.7	.....	.....	10n	.....	SW	0.17	4.3	Light snow..	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	67	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy.....	
Burlington, Vermont	29.31	744.5	29.60	751.8	23	— 5.0	73	S	12	5.4	.....	.....	10n	.....	W	Inap.	Inap.	Light snow..	
Cairo, Illinois	30.02	762.5	30.46	773.7	12	—11.1	61	NW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.23	640.8	30.03	762.8	49	9.4	57	Calm	.....	.....	0	10cs	0	Calm	.....	0	0	Cloudy.....	
Camp Verde, Arizona	.....	.....	.....	.....	34	1.1	61	W	.....	.....	1	10ck	0	Calm	.....	0	0	Cloudy.....	
Campo, California	27.46	697.5	30.03	762.8	42	5.6	83	E	8	3.6	.....	.....	10s	.....	SW	0.28	7.1	Cloudy.....	
Cape Hatteras, N. Carolina	29.76	755.9	29.77	756.1	40	4.4	100	W	7	3.1	.....	.....	10s	.....	W	0.11	2.8	Cloudy.....	
Cape Henry, Virginia	29.67	753.6	29.68	753.9	35	1.7	90	SW	9	4.0	.....	.....	10n	.....	Calm	0.70	17.8	Light rain..	
Cape Lookout, N. Carolina	29.80	756.9	29.81	757.2	44	6.7	92	W	20	8.9	.....	.....	10s	.....	W	0.16	4.1	Cloudy.....	
Cape May, New Jersey	29.60	751.8	29.63	752.6	32	0.0	100	NE	10	4.5	.....	.....	10n	.....	Calm	0.30	7.6	Light rain...	
Castroville, Texas	29.46	748.3	30.20	767.1	41	5.0	82	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Charleston, South Carolina	29.91	759.7	29 97	761.2	49	9.4	85	W	8	3.6	.....	0	2s	.....	SW	0.21	5.3	Fair.....	
Cheyenne, Wyoming	23.85	605.8	29.79	756.7	5	—15.0	75	SW	16	7.2	.....	0	8s	.....	SW	0.01	0.3	Cloudy.....	
Chicago, Illinois	29.32	744.7	30.13	765.3	—14	—25.6	73	W	15	6.7	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Cincinnati Ohio	29.43	747.5	30.15	765.8	9	—12.8	57	NW	16	7.2	.....	1k	0	W	.....	0.03	0.8	Clear.....	
Cleveland, Ohio	28.99	736.3	29.75	755.6	15	— 9.4	82	SW	28	12.5	.....	.....	10n	.....	Calm	0.04	1.0	Light snow..	
Coleman City, Texas	28.53	724.6	30.36	771.1	21	— 6.1	86	N	20	8.9	.....	.....	8s	.....	N	0	0	Cloudy.....	
Columbus, Ohio	29.05	737.9	29.96	761.0	8	—13.3	58	W	24	10.7	.....	0	5s	.....	W	0.03	0.8	Fair.....	
Corpus, Texas	28.36	720.3	30.18	766.6	21	— 6.1	85	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Corsicana, Texas	29.89	759.2	30.40	772.1	29	— 1.7	67	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Davenport, Iowa	29.64	752.8	30.40	772.1	—19	—28.3	65	NW	13	5.8	.....	Haze	0	Calm	.....	0.04	1.0	Clear.....	
Deadwood, Dakota	25.30	642.6	.....	.....	—13	—25.0	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Decatur, Texas	29.19	741.4	30.50	774.7	16	— 8.9	66	N	12	5.4	.....	2c	0	E	.....	0	0	Clear.....	
Denison, Texas	29.58	751.3	30.46	773.7	16	— 8.9	83	N	10	4.5	.....	0	2s	.....	Calm	0	0	Fair.....	
Denver, Colorado	24.66	626.4	29.88	758.9	— 7	—21.7	59	W	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Des Moines, Iowa	29.44	747.8	30.48	774.2	—19	—28.3	67	NW	10	4.5	.....	0	2s	.....	NW	0.01	0.3	Clear.....	
Detroit, Michigan	29.05	737.9	29.77	756.1	5	—15.0	75	SW	12	5.4	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Dodge City, Kansas	27.66	702.6	30.29	769.4	— 5	—20.6	63	N	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Dubuque, Iowa	29.49	749.0	30.32	770.1	—20	—28.9	63	NW	9	4.0	.....	0	1s	.....	Calm	0.01	0.3	Clear.....	
Duluth, Minnesota	29.41	747 0	30.22	767.6	—22	—30.0	60	S	5	2.2	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Eagle Pass, Texas	29.34	745.2	30.10	764.5	50	10.0	93	SE	5	2.2	.....	.....	Fog	.....	Calm	0.01	0 3	Foggy.....	
Eastport, Maine	29.74	755.4	29.81	757.2	20	— 6.7	85	NE	10	4.5	.....	8c	Haze	W	Calm	0	0	Fair.....	
Edinburg, Texas	.....	.....	.....	.....	58	14.4	94	NE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	44	6.7	60	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.....	
Erie, Pennsylvania	28.86	733.0	29.61	752.1	20	— 6.7	100	W	31	13.9	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Escanaba, Michigan	29.08	738.6	29 81	757.2	— 3	—19.4	83	NW	28	12.5	.....	.....	10s	.....	NW	0.07	1.8	Cloudy.....	
Florence, Arizona	28.60	726.4	30.20	767.1	41	5.0	91	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.....	
Fort Craig, New Mexico	25.58	649.7	29.64	752.8	20	— 6.7	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.23	640.8	30.19	766.8	46	7.8	48	Calm	0	0	.....	10k	0	W	.....	0	0	Cloudy.....	
Fort Gibson, Indian Ter	29.89	759.2	30.50	774.7	9	—12.8	78	N	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Fort Graham, Texas	29.10	739.1	30.51	774.9	18	— 7.8	84	N	8	3.6	.....	0	5s	.....	Calm	0	0	Fair.....	
Fort McKavett, Texas	28.02	711.7	30.09	764.3	25	— 3.9	87	NE	23	10.3	.....	.....	10s	.....	NE	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.26	743.2	30.51	774.9	12	—11.1	80	N	12	5.4	.....	0	2s	.....	Calm	0	0	Fair.....	
Fort Stevenson, Dakota	28.53	724.4	.....	.....	—25	—31.7	100	NW	.....	.....	6	2cs	0	W	.....	0	0	Fair.....	
Fredericksburg, Texas	28.48	723.4	30.14	765.5	32	0.0	79	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Galveston, Texas	30.14	765.5	30.18	766.6	49	9.4	93	N	13	5.8	.....	.....	10n	.....	N	0.01	0.3	Light rain...	
Graham, Texas	29.31	744.5	30.47	773.9	17	— 8.3	83	N	6	2.7	.....	0	8s	.....	W	0	0	Fair.....	
Grand Haven, Michigan	29.18	741 2	29.90	759.4	2	—16.7	72	NW	32	14.3	.....	.....	10n	.....	Calm	0.67	17.0	Light snow..	
Indianapolis, Indiana	29.32	744.7	30.20	767.1	— 3	—19.4	66	W	12	5.4	.....	0	0	.....	.....	0.05	1.3	Clear.....	
Indianola, Texas	30.15	765.8	30.18	766.6	52	11.1	100	N	14	6.3	.....	.....	10n	.....	Calm	Inap	Inap	Light rain...	
Jacksboro, Texas	29.21	741.9	30.36	771.1	19	— 7.2	85	W	12	5.4	.....	5cs	0	W	.....	0	0	Fair.....	
Jacksonville, Florida	30.01	762 2	30.03	762.7	58	14.4	88	W	3	1.3	.....	2k	0	W	.....	0	0	Fair.....	
Keokuk, Iowa	29.72	754.9	30.45	773.4	—15	—26.1	71	W	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear.....	
Key West, Florida	30.08	764.0	30.12	765.0	69	20.6	90	NE	3	1.3	.....	1k	1s	Calm	Calm	0	0	Clear.....	
Kittyhawk North Carolina	29.70	754.4	29.72	754.9	36	2.2	100	W	12	5.4	.....	10cs	0	W	.....	0.79	20.1	Cloudy.....	
Knoxville, Tennessee	29.09	736.6	30.04	763.0	32.5	0.3	89	W	12	5.4	.....	.....	10n	.....	W	0.20	5.1	Light snow..	
La Crosse, Wisconsin	29.42	747.2	30.29	769.4	—20	—28.9	100	W	10	4.5	.....	0	0	.....	.....	0.03	0.8	Clear.....	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	32	0.0	89	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Laredo, Texas	29.73	755.1	30.08	764.0	54	12.2	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Leavenworth, Kansas	29.59	751 6	30.59	777.0	—12	—24.4	75	NW	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Los Angeles, California	29.70	754.4	30.05	763.3	52.6	11.4	83	NE	9	4.0	.....	.....	10s	.....	Calm	1 92	48.8	Cloudy.....	
Louisville, Kentucky	29.61	752.1	30.3	767.8	7	—13.9	54	W	14	6.3	.....	5c	2s	SW	W	0.04	1.0	Fair.....	
Lynchburg, Virginia	29.01	736 8	29.70	754.4	35	1.7	70	SW	2	0.9	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy.....	
Madison, Wisconsin	29.04	737.6	30.20	767.1	—21	—29.4	61	W	22	9.8	.....	0	0	.....	.....	0.06	1.5	Clear.....	
Marquette, Michigan	29.03	737.3	29.80	756.9	— 2	—18.9	67	NW	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	
Mason, Texas	28.61	726.7	30.50	774.7	29	— 1.7	67	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Memphis, Tennessee	30.05	763.3	30.40	772.1	20	— 6.7	72	NW	18	8.0	.....	2k	0	NW	.....	0.03	0.8	Fair.....	
Milwaukee, Wisconsin	29.24	742.7	30.09	764.3	—18	—27.8	67	W	25	11.2	.....	0	1s	.....	Calm	Inap.	Inap.	Clear.....	
Mobile, Alabama	30.14	765.5	30.19	766.8	44	6.7	92	N	16	7.2	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy.....	
Montgomery, Alabama	29.88	758.9	30.12	765.0	43	6.1	75	NW	9	4.0	.....	.....	10ks	.....	NW	0.01	0.3	Cloudy.....	
Morgantown, West Virginia	28.64	727.4	29.70	754.4	34	1.1	100	W	21	9.4	.....	.....	10n	.....	W	0.47	11.9	Heavy snow	
Mt. Washington, N. H.	23.15	588.0	29.51	749.5	8	—13.3	89	SE	42	18.8	.....	.....	Fog	.....	SE	0	0	Foggy.....	
Nashville, Tennessee	29.69	754.1	30.28	769.1	13	—10.6	81	W	12	5.4	.....	0	2s	.....	NW	0.05	1.3	Fair.....	
New Haven, Connecticut	29.53	750 0	29.65	753.1	24	— 4.4	93	NE	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	
New London, Connecticut	29.60	751.8	29 65	753.1	30	— 1.1	89	N	4	1.8	.....	.....	10n	.....	Calm	0.05	1.3	Light snow..	
New Orleans, Louisiana	30.10	764.5	30.16	766.1	48	8.9	93	N	11	4.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Newport, Rhode Island	29.61	752.1	29.67	753.6	31	— 0.6	79	N	4	1.8	.....	.....	10ks	.....	.....	0.05	1.3	Threatening	
Norfolk, Virginia	29.45	748.9	29.63	752.6	29	— 1.7	100	E	16	7.2	.....	.....	10n	.....	Calm	0.14	3.6	Light snow..	
North Platte, Nebraska	29.64	752.8	29.70	754.4	36	2.2	90	SW	4	1.8	.....	.....	10s	.....	Calm	0.52	13.2	Cloudy.....	
Olympia, Washington Ter	27.27	692.6	30.25	768.3	—13	—25.0	62	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
	30.08	764.0	30.12	765.0	22.0	— 5.6	86	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	29.25	742.9	30.56	776.2	—18	—27.8	100	NW	8	3.6		0	0			Inap.	Inap.	Clear	
Oswego, New York	29.14	740.1	29.46	748.3	29	— 1.7	78	SE	8	3.6			10n		Calm	0.03	0.8	Light snow.	
Pembina, Dakota	29.46	748.3	30.46	773.7	— 30	—34.4	100	NW	10	4.5		0	0			0	0	Clear	
Philadelphia, Pa	29.58	751.3	29.64	752.8	28	— 2.2	77	NE	5	2.2			10s;fg		Calm	0.12	3.0	Cloudy	
Phœnix, Arizona	28.94	435.1	30.81	782.6	43	6.1	92	Calm			0	0	0			0	0	Clear	
Pike's Peak, Colorado	17.38	439.6	29.56	750.8	— 2	—18.9	35	W	24	10.7		0	0			1.06	26.9	Clear	
Pioche, Nevada	24.06	611.1	29.83	757.7	26	— 3.3	88	SW	1	0.4		0	5s		Calm	0	0	Fair	
Pittsburg, Pennsylvania	28.84	732.5	29.67	753.6	26	— 3.3	88	NW	15	6.7			10n		Calm	0.04	1.0	Light snow.	
Port Huron, Michigan	28.96	735.6	29.67	753.6	5	—15.0	75	W	24	10.7		0	5ks		W	0.04	1.0	Fair	
Portland, Maine	29.66	753.4	29.72	754.9	26	— 3.3	75	NW	12	5.4			10s		Calm	0	0	Cloudy	
Portland, Oregon	30.11	764.8	30.22	767.6	28.0	— 2.2	77	SE	3	1.3		0	2s			0	0	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	29	— 1.7	67	Calm	0	0		0	0			0	0	Clear	
Pilot Point, Texas	29.26	743.2	30.16	766.1	19	— 7.2	54	SE	10	4.5		0	0			0	0	Clear	
Punta Rassa, Florida	30.10	764.5	30.12	765.0	64	17.8	89	SW	2	0.9			Fog		Calm	0	0	Foggy	
Red Bluff, California	29.74	755.4	30.11	764.8	38	3.3	81	NW	4	1.8		0	0			0	0	Clear	
Rio Grande City, Texas	29.94	760.5	30.16	766.1	58	14.4	100	Calm	0	0			10s		Calm	0	0	Cloudy	
Rochester, New York	28.83	732.3	29.45	748.0	27	— 2.8	88	W	14	6.3			10n		Calm	0.04	1.0	Light snow.	
Roseburg, Oregon	29.56	750.8	30.17	766.3	22.0	— 5.6	97	Calm	0	0		0	0			0	0	Clear	
Sacramento, California	29.99	761.7	30.07	763.8	46.3	7.9	82	Calm	0	0		0	2s		Calm	0	0	Fair	
St. Louis, Missouri	29.80	756.9	30.47	773.9	— 6	—21.1	61	W	20	8.9		0	0			0.02	0.5	Clear	
St. Marks, Florida	30.07	763.8	30.09	764.3	53	11.7	100	N	4	1.8			10s			0.07	1.8	Cloudy	
St. Paul, Minnesota	29.32	744.7	30.30	769.6	—20	—28.9	63	NW	11	4.9		0	0			Inap.	Inap.	Clear	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	22	— 5.6	86	S	1	0.4			Fog		Calm	0.28	7.1	Foggy	
San Antonio, Texas	29.53	750.0	30.14	765.5	43	6.1	83	W	12	5.4			10s		Calm	0	0	Cloudy	
San Diego, California	29.99	761.7	30.06	763.5	53.3	11.8	100	NE	4	1.8			10n		Calm	1.04	26.4	Light rain	
Sandusky, Ohio	29.12	739.6	29.84	757.9	10	—12.2	79	W	28	12.5			10s			0.04	1.0	Cloudy	
Sandy Hook, New Jersey	29.57	751.1	29.60	751.8	31	— 0.6	100	E	19	8.5			10n		E	0.22	5.6	Light snow.	
San Francisco, California	30.01	762.2	30.07	763.8	48.3	9.1	85	Calm	0	0		0	0			0	0	Clear	
Santa Fé, New Mexico	23.25	590.5	29.79	756.7	17	— 8.3	67	E	3	1.3		0	0			0	0	Clear	
Savannah, Georgia	29.90	759.4	29.99	761.7	51	10.6	86	W	6	2.7		5s	0	W		0.21	5.3	Fair	
Shreveport, Louisiana	30.08	764.0	30.31	769.9	37	2.8	71	N	8	3.6			10s		N	0	0	Cloudy	
Silver City, New Mexico	24.32	617.7	30.70	779.8	32	0.0	79	Calm	0	0		0	2s		Calm	0	0	Fair	
Smithville, North Carolina	29.85	758.2	29.89	759.2	46	7.8	92	W	8	3.6			10s		W	0.09	2.3	Cloudy	
Springfield, Massachusetts	29.52	749.8	29.66	753.4	22	— 5.6	72	N	5	2.2			10n		N	Inap.	Inap	Light snow.	
Stockton, Texas	27.12	688.8	30.12	765.0	24	— 4.4	87	N	16	7.2			10ks		Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.63	752.6	29.68	753.9	38	3.3	72	E	12	5.4			10s		E	0	0	Cloudy	
Toledo, Ohio	29.13	739.9	29.86	758.4	9	—12.8	78	W	26	11.6		0	0			0.02	0.5	Clear	
Tucson, Arizona					45	7.2	68	S	1	0.4			10s		Calm	0	0	Cloudy	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	48	8.9	93	W	4	1.8		0	2ks		W	0.19	4.8	Fair	
Umatilla, Oregon	30.05	763.3	30.61	777.5	33.6	0.6	86	SE	3	1.3		0	5s		Calm	0	0	Fair	
Unalashka, Aleutian Islands					35	1.7	90	Calm			0		10s		SW	0.12	3.0	Snowing	
Uvalde, Texas	29.32	744.7	30.18	766.6	40	4.4	65	NE	17	7.6			10s		NE	0	0	Cloudy	
Vicksburg, Mississippi	30.04	763.0	30.31	769.9	39	3.9	82	N	4	1.8		0	8s		N	0	0	Fair	
Virginia City, Montana	24.16	613.6	29.64	752.8	41	5.0	80	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.71	754.6	30.09	764.3	36	2.2	97	E	1	0.4		0	Fog		Calm	0	0	Foggy	
Washington, D. C.	29.54	750.3	29.66	753.4	32	0.0	100	SW	4	1.8			10n;fg		Calm	0.26	6.6	Light rain	
Wickenburg, Arizona					35	1.7	90	NE			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.75	755.6	29.83	757.7	44	6.7	92	W	4	1.8			10s		W	0.06	1.5	Cloudy	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	8	—13.3	78	SW	3	1.3		0	2s			0	0	Fair	
Wood's Holl, Mass	29.61	752.1	29.65	753.1	35	1.7	90	NE	7	3.1			10n		NE	0.04	1.0	Light snow.	
Yankton, Dakota	29.09	738.9	30.66	778.8	—25	—31.7	53	Calm	0	0		0	0			0	0	Clear	
Yuma, Arizona	29.94	760.5	30.12	765.0	47	8.3	77	NE	1	0.4		2cs	5s	Calm	NE	0	0	Fair	
SUB-SERIES.																			
Batavia																			J. B. Gordon.
Fayettville, Ark	28.78	731.0	30.41	772.4	— 1	—18.3	100												Chas. Hasselbrink.
Havana, Cuba, W. I	30.09	764.3	30.11	764.8	71	21.7	75	Calm	0	0		0	0			0	0	Clear	James Gall.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	75	23.9	81	Calm	0	0		0	2s		N	0	0		Thomas Herran.
Medellin, Colombia, S. A																			F. M Everett.
Navassa, W. I	29.96	761.0	30.04	763.0	79	26.1		N	9.6	4.3		0	0			0	0	Fair	C. J. Hering
Paramaribo, D. Guiana, S. A	29.95	760.7	29.95	760.7	79	26.1	89	NE			3	4c	5k	NE		0	0	Fair	Robert Mason.
Santiago de Cuba, W. I																			G. O. Gellich.
St. Thomas, W. I																			J. Fortescue, W. Wood.
York Factory, B. A	30.18	766.6			—12	—24.4	75	NW	17	7.6			10n		NW	0.03	0.8	Snowing	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,933 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,503 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,160 (?) ft., or 735.8 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,576 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.56 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.00	762.0	49	9.4	48	8.9	78	Calm	0	0	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.20	767.1	51	10.6	51	10.6	86	NW	6	2.7	.....	.....	Mist	.....	.....	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.70	754.4	47	8.3	23	— 5.0	86	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Naval Hospital, Yokohama, Japan *	30.13‡	765.3‡	.....	.....	35.8	2.1	85	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Alaska. Panama	30.15	765.8	79	26.1	76	24.4	91	WNW	.....	.....	3	.....	2	.....	SE	0	0	.....	.....	D. clouds	
Alliance. Smyrna, Turkey	30.15‡	765.8‡	.....	.....	60	15.6	60	NE	.....	.....	0–1	.....	5	.....	NE	.....	.....	.....	.....	Misty	
Ashuelot. N. 11° 18′, E. 102° 40′	30.11	764.8	79	26.1	77	25.0	65	N	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Canonicus, New Orleans, La.	30.14	765.5	40	4.4	47	8.3	92	NNW	.....	.....	3	.....	5	.....	NNW	.....	.....	.....	.....	Fair	
Colorado. New York, N. Y.	29.60	751.8	30	— 1.1	30	— 1.1	100	NE	3	1.3	.....	.....	10	.....	NE	0.10	2.5	.....	.....	Snowy	
Constitution, Havre, France	30.06‡	763.5‡	.....	.....	42	5.6	74	NNE	.....	.....	3	.....	9	.....	NE	.....	.....	.....	.....	Cloudy	
Despatch, Constantinople, Turkey	30.07‡	763.8‡	.....	.....	56	13.3	63	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	29.83	757.7	68	20.0	38	3.3	90	WSW	7	3.1	.....	.....	10	.....	W	0.56	14.2	.....	.....	Cloudy	
Gettysburg, Villafranca, France	29.84‡	757.9‡	.....	.....	62	16.7	77	W	.....	.....	4	.....	0	.....	.....	0	0	Light	SSW	Blue sky	
Hartford, Montevideo, Uruguay	29.98	761.5	65	18.3	65	18.3	48	W	7.0	3.1	.....	.....	10	.....	.....	0.01	0.3	Smooth	.....	Cloudy	
Lackawana, Off La Union, San Salvador, C. A.	29.80‡	756.9‡	.....	.....	78	25.6	86	S	.....	.....	1	.....	0?	.....	SW	0	0	Light	SW	Clear	
Michigan, Erie, Pa.	29.82†	757.4†	.....	.....	18	— 7.8	84	NW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy. Yokohama, Japan *	30.19‡	766.8‡	.....	.....	36	2.2	100	Var.	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Light haze	
New Hampshire, Port Royal, S. C.	30.11†	764.8†	.....	.....	47	8.3	100	WSW	13	5.8	.....	.....	2?	.....	WSW	0.35	8.7	.....	.....	Overcast?	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	68	20.0	90	SSE	.....	.....	1	.....	5	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.18	766.6	28	— 2.2	23	— 5.0	100	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	33	0.6	80	S	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Punta Arenas, Costa Rica	29.91‡	759.7‡	.....	.....	71	21.7	100	NE	1	0.4	.....	.....	1	.....	.....	0	0	.....	.....	Clear	
Powhatan, Norfolk, Va.	29.74	755.4	41	5.0	41	5.0	82	WSW	6.0	2.7	.....	.....	10	.....	Calm	.....	.....	.....	.....	Sprinkling	
Quinnebaug, Norfolk, Va.	29.71‡	754.6‡	.....	.....	38	3.3	.....	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Raining	
Richmond, New York, N. Y.	29.70‡	754.4‡	.....	.....	30	— 1.1	100	ENE	.....	.....	2–3	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Rio Bravo, Brownsville, Texas	30.04	763.0	60	15.6	58	14.4	94	WNW	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	29.65‡	753.1‡	.....	.....	32	0.0	.....	NNE	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Foggy	
St. Louis, League Island, Pa.	29.56	750.8	60	15.6	30	— 1.1	.....	NE	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Supply, Havre, France	30.15‡	765.8‡	.....	.....	43	6.1	67	N	.....	.....	1	.....	5	.....	N	.....	.....	.....	.....	Fair	
Trenton Villafranca, France *	29.83‡	757.7‡	.....	.....	65	18.3	48	SW	.....	.....	3–6	.....	1	.....	SW	0	0	.....	.....	Fair	
Tuscarora. N. 14° 28′, W. 92° 19′	29.95‡	760.7‡	.....	.....	80	26.7	74	N	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, N. 28° 11′, W. 69° 36′	30.07‡	763.8‡	.....	.....	73	22.8	85	WSW	.....	.....	4	.....	2	.....	WSW	.....	.....	Smooth	.....	Clear	
Wabash. Boston, Mass.	29.71‡	754.6‡	.....	.....	25	— 3.9	.....	N	4	1.8	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing	

Note.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4: weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from: they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.			Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 9° 58', W. 84° 46'		29.96*	761.0*	74	23.3	100	NE			2		0						Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.79	756.7				Calm			0		10		S				Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer, San Francisco, Cal.		29.95*	760.7*	54	12.2	100	SSW			3		ks		SSW	0	Smooth	W	Misty	J. A. Thompson, 2d Off'r.
S. S. Gaelic, N. 23° 13', E. 117° 20'		30.15†	765.8†	59	15.0	94	NE			4		ks		SW	0	Smooth	NE	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionaly by the scale 0 to 9.

UNITED STATES MARINE SERIES.—Continued.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 46° 40', W. 46° 36'		29.25*	742.9*	40	4.4	91	NW			8		8		WNW	Blank	Mod'ate	WNW	Cloudy	Captain Sargent.
S. S. Ohio, N. 29° 39', W. 36° 04'		28.18†	715.8†	54	12.2	93	S			3		8		NE	Blank	Very heavy cross.	Var.	Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 49° 36' W. 43° 58'		28.90*	734.0*	41	5.0		WNW			8		10s		WSW	Blank	Con-fused.	WNW	Overcast	Capt. W. Richardson.
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

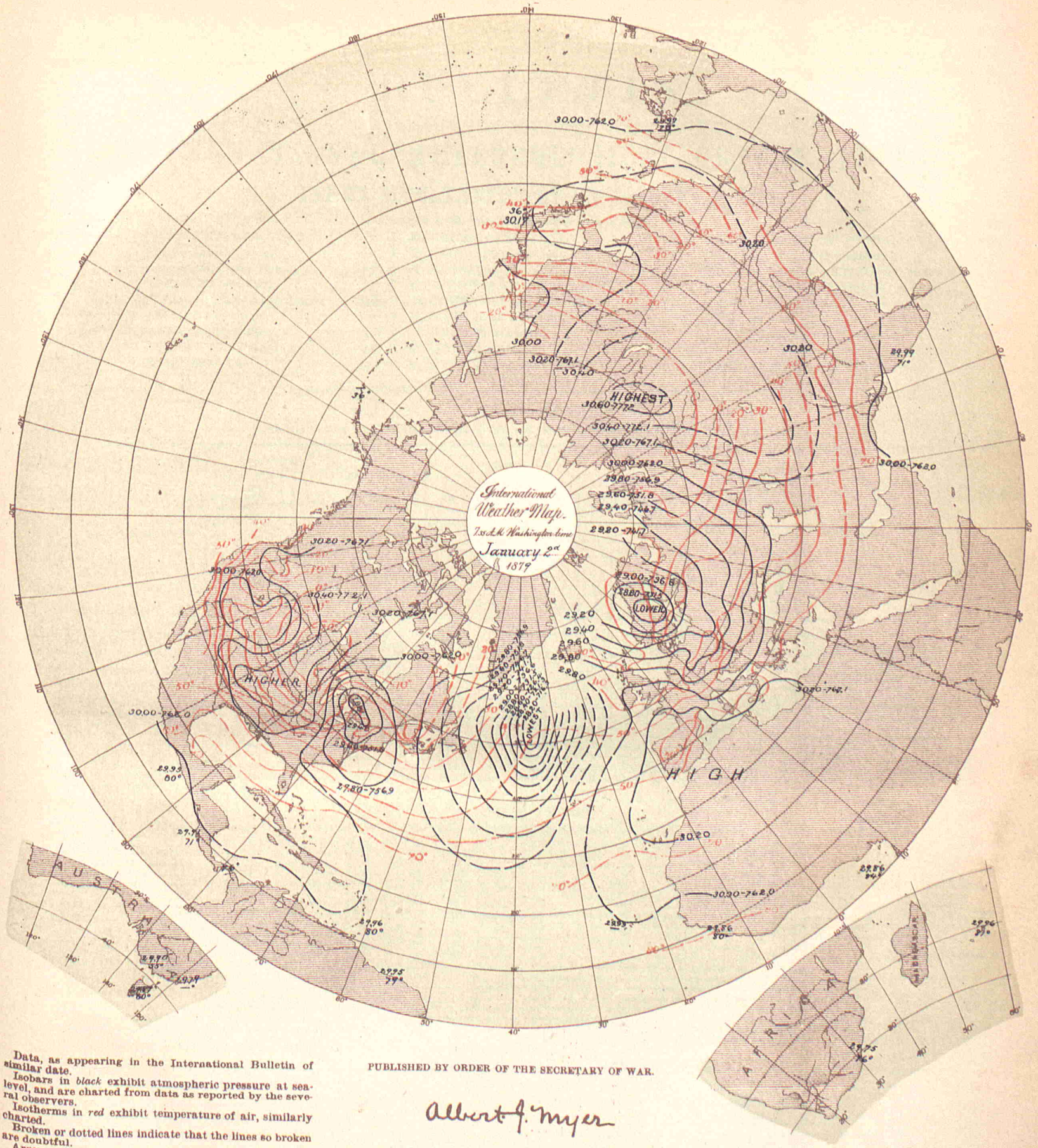
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 3, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.44	773.3	63.3	17.4	81	NE	.....	.....	1	.....	2	.....	.....	0	6	Fair.	
Nemours	.....	.....	30.31	769.9	60.8	16.0	75	WNW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.21	767.2	60.4	15.8	81	Calm	.....	.....	0	.....	2	.....	.....	0	0	Fair	Touriliere.
La Calle	.....	.....	30.23	767.8	64.4	18.0	71	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.26	768.5	61.2	16.2	66	W	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Jacques.
Sfax	.....	.....	30.28	769.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gar.
Saida	.....	.....	30.24	768.1	68.0	20.0	12	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.19	766.9	59.0	15.0	41	W	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Watrin.
Geriville	.....	.....	30.19	766.9	58.8	14.9	60	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.23	767.9	61.9	16.6	31	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.30	769.5	68.0	20.0	45	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.59	749.2	30.06	763.6	41.0	5.0	60	E	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Ivan Stožir.
Cracow, I. R. Observatory	29.10	739.1	29.90	759.4	32.7	0.4	96	WSW	.....	.....	2	.....	5	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.02	737.1	29.94	760.5	31.6	— 0.2	83	S	.....	.....	2	.....	5c	.....	SE	0	0	.....	Julius Mikolik.
Gratz	28.74	730.1	30.05	763.2	34.5	1.4	85	SSE	.....	.....	2	.....	8	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.59	726.1	30.08	764.0	33.1	0.6	80	NNE	.....	.....	2	.....	10	.....	.....	0.022	0.55	.....	Prof. A. Gottschling.
Kremsmünster	28.47	723.0	29.85	758.1	35.6	2.0	98	NE	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	Prof. C. Wagner.
Lemberg	28.89	731.8	29.84	757.8	32.7	0.4	85	W	.....	.....	4	.....	0	.....	.....	0.012	0.3	.....	Dr. T. Stanecki.
Pola	29.87	759.2	30.00	762.1	50.7	10.4	.....	ESE	.....	.....	1	.....	9	.....	.....	0.028	0.7	.....	I.R.Hydrographic Office.
Szathmar	29.57	751.1	30.06	763.4	34.5	1.4	93	S	.....	.....	4	.....	1	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.79	756.6	30.08	764.1	37.9	3.3	65	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	759.7	30.01	762.3	47.5	8.6	76	E	.....	.....	1	.....	4	.....	.....	0.138	3.5	Raining	P. Busin.
Vienna	29.21	742.0	29.95	760.8	36.3	2.4	65	SE	.....	.....	2	.....	9	.....	.....	0.020	0.5	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected or instru'tal error and temperature. Inches.	Barometer. Corrected or instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.41	747.0	29.52	749.8	25.4	— 3.7	.....	W	8	3.6	.....	.....	2	.....	.....	0.220	5.59	Blue sky	W. Boswell.
Ardrossan	29.53	750.0	29.54	750.3	35	1.7	.....	NNW	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	George Carrick.
Armagh, Observatory	.....	.....	29.61	752.1	32.3	0.2	.....	NE	2	0.9	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.50	749.3	31.8	— 0.1	.....	NNE	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton	.....	.....	29.47	748.5	31.2	— 0.4	.....	NNE	8.0	3.6	.....	.....	10	.....	.....	.....	.....	Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.10	739.1	29.49	749.0	32.0	0.0	.....	NE	.....	.....	1	.....	10	.....	.....	0.20	5.1	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.90	759.4	29.93	760.2	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.40	746.7	34.0	1.1	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [O.
Cardington	.....	.....	29.42	747.2	34.0	1.1	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.25	742.9	29.38	746.2	44.2	6.8	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Lt. W. G. Morris, R.E.
Dartmoor	28.02	711.7	29.48	748.8	45.0	7.2	.....	W	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	Alexander Watt.
Donaghadee	29.53	750.0	29.58	751.3	37	2.8	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.34	745.2	29.36	745.7	48	8.9	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Costello.
Falmouth, Observatory	29.32	744.7	29.55	750.6	50.6	10.3	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.11	688.6	29.42	747.2	92.6	33.7	.....	W	.....	.....	6	.....	1	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.69	754.1	29.92	760.0	76	24.4	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.55	750.6	34	1.1	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.22	767.6	30.28	769.1	60.9	16.1	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Capt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.33	745.0	29 54	750.3	29.6	— 1.3	.....	N	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.36	745.7	29.37	746.0	36	2.2	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	29.22	742.2	29.39	746.5	41.4	5 2	.....	WNW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	The Staff, for G. B. Airy
Guernsey	29.33	745.0	29.55	750.6	51	10.6	.....	SW	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.47	748.5	29.57	751.1	50	10.0	.....	W	.....	.....	2	.....	3ck	.....	.....	0.12	3.0	Fine	M. P. Moyle.
Holyhead	29.48	748.8	29.53	750.0	38	3.3	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.30	744.2	29.59	751.6	49.9	9.9	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	Misty	J. Fisher.
Kew, Observatory	29.37	746.0	29.41	747.0	40.0	4.4	.....	W	11	4.9	.....	.....	10	.....	.....	.....	.....	Raining	The Staff.
Kingstown	29.54	750.3	29.57	751.1	40	4.4	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	29.18	741.2	29.45	748.0	33.1	0.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.00	762.0	30.08	764.0	62	16.7	.....	NW	.....	.....	1	.....	2k	.....	.....	.....	.....	Blue sky	Sergt. Beckett, A. H. C.
Naira	29.44	747.8	29.54	750.3	25	— 3.9	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.08	764.0	68.0	20.0	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.27	743.4	29.46	748.3	32.0	0.0	.....	N	.....	.....	2	.....	10n	.....	N	0.277	7.04	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.92	734.6	29.46	748.3	31.2	— 0.4	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.44	747.8	34	1.1	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	29.45	748.0	29.52	749.8	48.6	9.2	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.47	748.5	29.51	749.5	41	5.0	.....	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.32	744.7	29.49	749.0	41	5.0	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.51	749.5	23	— 5.0	.....	NNE	2	0.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.86	758.4	52.4	11.3	.....	SW	.....	.....	2	.....	9	.....	.....	Blank	Blank	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.22	742.2	29.51	749.5	31.3	— 0.4	.....	NW	.....	.....	1	.....	10	.....	.....	0.02	0.5	Snowing	W. F. Cooper.
Silloth Rectory	29.50	749.3	29.61	752.1	31.8	— 0.1	79	Calm	.....	.....	0	.....	2	.....	.....	0	0	D. clouds	F. H. Redford.
Stonyhurst, Observatory	29.10	739.1	29.50	749.3	32.0	0.0	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	Rev. S. J. Perry.
Stratfield Turgiss	29.21	741.9	29.43	747.5	39.2	4.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Rev. C. H. Prince, F.M.S
Thurso	29.46	748 3	29.52	749.8	30	— 1.1	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.53	750.0	52	11.1	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.40	746.7	29.43	747.5	48.6	9.2	.....	S	7	3.1	.....	.....	10	.....	.....	Blank	Blank	Misty	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.92	760.0	61.0	16.1	88	W	.....	.....	3	.....	0	.....	.....	0.02	0.5	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.54	750.3	28.0	— 2.2	.....	NW	.....	.....	1	.....	3k	.....	.....	0.01	0.3	.....	Andrew Gibb.
Mauritius, Observatory	29.77	756.1	29.96	761.0	80.2	26.8	63	E	18.5	8.3	.....	1	4	.....	ESE	0.67	1.8	Squally	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	60.0	15.6	76	SW	2	0.9	.....	.....	0	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.59	751.6	39	3.9	.....	N	.....	.....	6	5	5	N	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.25	666.7	29.97	761.2	64.0	17.8	80	SE	.....	.....	2	1c	1s	.....	E	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.38	746.3	29.43	747.5	33.1	0.6	87	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Fanöe	.....	.....	.....	.....	.....	.....	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vestervig	29.24	742.8	29.41	747.1	32.5	0.3	96	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	29.13	739.8	29.68	753.8	52.2	11.2	97	SW	.....	.....	3	.....	10	.....	.....	0.146	3.7	Covered	Collignon, Director.
Amiens, Normal School	29.58	751.3	29.69	754.1	50.4	10.2	95	SW	.....	.....	4	.....	10	.....	.....	0.055	1.4	Covered	Bonvallet, Director.
Avignon, Normal School	30.04	762.9	30.11	764.9	45.1	7.3	83	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Saillard, Director.
Beauvais, Normal School	29.28	743.8	29.57	751.0	50.5	10.3	93	WSW	.....	.....	3	.....	10	.....	W	0	0	Covered	Frere Eugene Marie, Director.
Besançon, Normal School	28.95	735.2	29 84	758.0	48.7	9.3	67	SW	.....	.....	6	.....	10	.....	.....	0.327	8.3	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.02	737.2	29.93	760.2	48.7	9.3	89	S	.....	.....	1	.....	10n	S	S	0.059	1.5	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.41	747.0	29.65	753.2	52.9	11.6	93	WSW	.....	.....	3	.....	10	.....	WSW	0.374	9.50	Rain & fog.	M.de Rermaur, Director.
Carcassonne, Normal School	29.60	751.8	30.02	762.5	51.8	11	75	NE	.....	.....	1	.....	2	W	W	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Lair, Director.
Chartres, Normal School	29.01	736.8	29.58	751.2	47.5	8.6	78	W	.....	.....	3	.....	10	.....	S	.....	.....	Light rain	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.146	3.7	.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.55	725.1	29.89	759.2	56.5	13.6	50	SW	.....	.....	1	.....	8	.....	W	0.020	0.5	Very cloudy	Alluard, Director.
Commercy, Normal School	28.84	732.6	29.74	755.3	43.2	6.2	97	SW	.....	.....	4	.....	10	.....	SW	0.047	1.2	Light rain	Dr. Coulet, Director.
Commune de Grèasque*	28.96	735.5	30.10	764.5	51.8	11.0	75	NW	.....	.....	2	.....	8	.....	W	0	0	¾ covered	M. Kiss, Director.
Grenoble, Normal School	29.26	743.1	30.04	763.1	43.2	6.2	88	NE	.....	.....	1	.....	10n	SW	.....	0.035	0.9	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.59	751.6	29.80	757.0	53.6	12.0	95	WSW	.....	.....	4	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.39	746.4	29.69	754.2	52.2	11.2	95	SE	.....	.....	4	.....	8	.....	SE	0.04	1.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.99	736.3	29.91	759.8	49.5	9 7	52	S	.....	.....	4	.....	10	.....	SW	0.35	9.	Covered	Baudry, Director.
Lorient, Naval Observatory	29.61	752.2	29.71	754.7	53.6	12.0	93	SW	.....	.....	6	.....	.....	.....	SW	0.087	2.2	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Galzin, Director
Mirecourt, Normal School	28.70	728.9	29.76	755.8	42.4	5.8	75	NE	.....	.....	4	.....	10n	.....	W	.....	.....	Raining	M. Barbier, Director.
Nismes, Normal School	29.88	759.0	30.09	764.3	51.1	10.6	74	NW	.....	.....	1	.....	10	.....	N	0	0	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.04	636.1	.....	.....	35.4	1.9	82	SW	.....	.....	10	.....	10	.....	.....	0.146	3.7	Covered	Alluard, Director
Rochefort, Naval Obs'y	29.85	758.2	29.88	759.0	52.7	11.5	98	WSW	.....	.....	2	.....	10	WSW	WSW	0.47	12.	Raining	Lt. Decante, Director.
Rouen, Normal School	29.45	748.1	29.54	750.3	54.1	12.3	84	W	.....	.....	4	.....	10	.....	SW	0.374	9.5	Covered	Frere Lucard, Director.
Saint Malo (Port)	29.58	751.2	29.61	752.0	52.5	11.4	75	WSW	.....	.....	6	.....	5	WSW	WSW	0.098	2.50	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.47	748.6	29.64	752.8	50.7	10.4	89	SW	.....	.....	2	.....	10	.....	SW	0.083	2.1	Covered	E. Renou, Director.
Tarbes, Normal School	28.97	735.8	30.05	763.3	53.6	12	65	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.4	29.97	761.1	77.4	25.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Lyons, Observatory	.....	.....	29.98	761.5	45.9	7.7	66	SSW	.....	.....	1	.....	9	.....	.....	0	0	Cloudy	L'Abbé Marchési.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Mr. Jays.
Mont-Louis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Nice	24 90	632.5	30.22	767.5	46.4	8.0	34	WSW	9.4	4.2	.....	.....	2	.....	S	0	0	.....	M. Cave.
Paris, Montsouris Obs'y	.....	.....	30.02	762.4	56.3	13.5	78	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cov	Dr. A. Niepce, Jr.
Perpignan	29.34	745.2	.....	.....	51.1	10.6	91	SW	.....	.....	6	.....	10	.....	SW	0.079	2.0	Sprinkling	Marié Davy, Director
Pic du Midi, (Summit) H. P.	29.90	759.4	30.00	762.1	50 2	10.1	85	E	3.8	1.7	.....	.....	6	.....	NE	0	0	.....	Dr. Fines.
Pic du Midi, (Plantade) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Toulouse, Observatory	22 54	572.4	.....	.....	43.0	6.1	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	Fair	Gouil de Lansouty.
Tours	29.31	744.4	30.03	762.8	50.7	10.4	84	SSE	.....	.....	1	.....	3	.....	.....	0.008	0.2	.....	M. Mercadier Julier.
Versailles Observatory	29.55	750.6	29.75	755.6	52.2	11.2	93	SW	.....	.....	2	.....	10	.....	SW	0	0	.....	C. Marquet.
Zi-Ka-Wei, (near Shanghai)	.....	.....	29.67	753.5	50.7	10.4	.....	SW	.....	.....	3	.....	10	.....	.....	0.076	1.92	Rainy	Dr. A. Bernény, Director.
.....	30.31	769.8	30.33	770.4	39.0	3.9	59	S	8.5	3.8	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4. Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published. at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Grèasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.90	734.1	29.74	755.3	33.1	0.6	82	SE			6		10			0.055	1.4	Snowing	Prof. Dr. Hoh.
Berlin	29.44	747.7	29.61	752.2	33.1	0.6	78	SW			3		10			0	0		Prof. Arndt.
Breslau	29.27	743.4	29.80	756.8	34.5	1.4	73	SW			6		9			0	0		Royal University Obs'y
Carlsruhe	29.23	742.5	29.66	753 4	45.7	7.6	74	SW			2		10	SW		0.780	19.8	Heavy rain..	Albert Senz.
Cassel	28.95	735.2	29.54	750.4	33.4	0.8	91	ESE			2		10	SW		0.212	5.38	Snowing	Dr. H. Möhl.
Crefeld	29.26	743.1	29.18	747.1	34.7	1.5	93	SE			4		10					Raining	Director Lose.
Emden					32.2	0.1	96	SSE			2		10			0.091	2.3		Prof. Prestel.
Frankfort on the Main	29.29	743.9	29.66	753.4	34.7	1.5		S			1		10			0.220	5.6		Physical Society.
Friedrichshafen	28.34	719.9	29.80	757.0	41.0	5.0	70	SE			1		9	WSW		0.091	2.3	Raining	M. Wilhelm.
Hamburg	29.52	749.7	29.59	751.5	32.2	0.1	87	WSW			2		10			0.028	0.7		Captain F. Hegemann
Kiel	29.52	749.9	29.54	750.3	34.0	1.1	88	WSW			2		10			0.209	5.30	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.25	742.9	29.33	745.0	34.3	1.3	62	W			8		6			0.039	1.0	Snowing	Prof. E. Luther.
Köslin			29.41	747.0	33.8	1.0		W			5		3			0.083	2.1		H. Müller.
Leipsic, Observatory	29.32	744.7	29.75	755.7	33.1	0.6	78	SSW			4		10			0.280	7.1		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.14	740.2	29.19	741.3	31.1	— 0.5	81	WNW			8		10n					Heavy snow	Skalweit.
Neufahrwasser	29.41	747.0	29.43	747.4	34.9	1.6	71	W			5		7			0.213	5.4		A. Lothes.
Posen	29.44	747.8	29.74	755.4	30.6	— 0.8	95	W			8		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.19	741.3	29.74	755.4	44.8	7.1	70	SW			2		10			0.048	1.22	Raining	Imp. University Observatory.
Stuttgart	28.76	730.5	29.71	754.7	42.8	6.0	78	SW			1		8	W		0.028	0.7		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.25	717.6	29.80	756.9	35.2	1.8	85	SW	22.4	10			10		S	0.024	0.6	Misty	Dr. Van Bebber.
Wustrow, Naval School	29.54	750.4	29.57	751.0	34.2	1.2	87	SW			6		10s			0.008	0.2		E. Schutz, Dir.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.60	751.7	29 98	761.5	64.2	17.9		SW			1.0							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	759.8	29.97	761.2	74.5	23.6	56	W	11.0	4.9			2			0	0	D. clouds	
Deesa	29.60	751.8	30.08	764.1	74.6	23.7	21	NNW					0			0	0	Blue sky	
Bombay	29.93	760.1	29.96	761.1	77.1	25.1	59	WNW	10.0	4.5			2	WNW		0	0	D. clouds	
Poona	27.96	710.2	29.98	761.4	77.8	25.4		ESE					0			0	0	Blue sky	
Lahore	29.32	744.8	30.11	764.8	53.7	12.1	40	Calm	0.3	0.1			5			0	0	Gloomy	
Belgaum	27.40	696.1	29.95	760.8	75.1	23.9	18	ESE	3.0	1.3			1			0	0	D. clouds	
Roorkee	29.13	739.9	30.07	763.7	63.8	17.7	48	Calm	1.2	0.5			9			0	0	Gloomy	
Agra	29.51	749.5	30.10	764.6	58.8	14.9	45	W					0			0	0		
Nagpur	28.99	736.3	30.06	763.4	72.6	22.6	40	Calm	1.9	0.8			6			0	0	D clouds	
Lucknow	29.69	754.1	30.08	763.9	66.1	18.9	32	Calm	0.9	0.4			0			0	0	Blue sky	
Allahabad	29.76	756.0	30.09	764.2	62.6	17.0	68	Calm	0.6	0.3			0			0	0	Blue sky	
Patna	29.88	758.9	30.07	763.7	66.8	19.3	73	Calm	0.3	0.1			0			0	0	Blue sky	
Hazaribagh	27.99	711.0	30.07	763.8	63.6	17.6	53	NW	3.3	1.5			0			0	0	Blue sky	
Cuttack	29.96	761.1	30.05	763.2	70.4	21.3	63	NNE	1.3	0.6			1			0	0	Blue sky	
Calcutta (Alipore)	30.03	762.8	30.06	763.4	66.8	19.3	74	WNW	1.0	0.4			2			0	0	D. clouds	
Goalpara					67.3	19.6	68	E	5.3	2.4			9			0	0	D. clouds	
Chittagong	29.96	761.0	30.06	763.5	70.7	21.5	88	SW	3.2	1.4			0			0	0		
Sibsagar	29.73	755.2	30.08	764.1	63.1	17.3	84	ENE	0.7	0.3			10			0	0	D. clouds	
Jubbulpore	28.66	728.0	30.07	763.8	67.7	19.8	46	Calm	1.7	0.8			0			0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.6	30.02	762.4	45.1	7.3	68	E	2.5	1.1	.....	.....	10	.....	.....	0.016	0.4	.....	Prof. Giovanni Clodig.
Padua	29.91	759.6	30.02	762.5	42.4	5.8	91	N	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cont. Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	29.47	748.6	30.02	762.4	36.9	2.7	100	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.07	738.4	30.02	762.4	42.4	5.8	74	ENE	.....	.....	2	.....	5	NNE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.04	712.3	30.02	762.4	46.9	8.3	42	W	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Vassallo.
Genoa	29.82	757.4	30.02	762.4	54.1	12.3	70	E	9.4	4.2	.....	.....	8	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Pigorini.
Florence	29.80	756.8	30.06	763.5	54.0	12.2	84	SSW	.....	.....	2	.....	10	SW	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.94	760.5	30.03	762.7	52.2	11.2	61	W	1.3	0.6	.....	.....	10	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.96	760.9	30.01	762.2	42.8	6.0	100	NE	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Serpieri
Rome	29.91	759.7	30.09	764.3	54.5	12.5	81	N	0	0	.....	.....	9	.....	.....	0.024	0.6	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Palmieri.
Lecce	29.77	756.1	30.03	762.7	59.0	15.0	64	NNW	4.3	1.9	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.94	760.4	30.13	765.3	66.4	15.8	74	W	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.21	742.0	30.11	764.8	58.1	14.5	69	SE	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.91	759.6	30.16	766.1	59.4	15.2	61	W	6.9	3.1	.....	.....	7	W	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.06	763.5	30.13	765.3	59.4	15.2	66	NE	1.3	0.6	.....	.....	4	W	.....	0	0	.....	Prof. V. Graham.
SUB-SERIES.																			
Naples, S. R.	29.58	751.4	30.14	765.5	56.1	13.4	75	SE	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.23	767.8	30.25	768.3	38.3	3.5	99	N	4.1	1.9	.....	.....	4ck;s	SW	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.07	763.8	30.28	769.1	51.2	10.7	66	WSW	7.3	3.3	.....	.....	10ck;s	WSW	WSW	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.14	765.5	30.21	767.3	34.2	1.2	93	SSE	1.8	1.3	.....	0	0	.....	.....	0	0	Very clear	The Staff.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.09	637.3	30.26	768.6	44.6	7.0	62	Calm	.....	.....	0	0	1k	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.47	621.6	30.13	765.3	53.4	11.9	74	NNW	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.3	30.30	769.6	45.0	7.2	63	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	51.8	11.0	60	W	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.04	762.8	30.05	763.1	72.5	22.5	93	NW	.....	.....	2	0	10	.....	NW	0.04	1.	Rainy	M. M. Cházaro.
San Luis Potosi	24.26	616 1	30.21	767.3	49.0	9.4	36	ESE	.....	.....	.....	0	8	.....	ESE	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	30.08	764.1	30.11	764.8	75.2	24.0	75	N	0	0	.....	.....	10sk	.....	.....	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.80	579.2	.....	.....	57.2	14	63	SSW	.....	.....	2	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.43	595.0	30.20	767.0	41.9	5.5	48	NNE	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.42	721.9	30.08	764.0	73.4	23.0	81	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	R. Randa, C. E.
San Juan E. Michapam	29.94	760.6	30.08	764.0	74	23.3	.....	Calm	.....	.....	0	7n	3n	N	N	0.087	2.2	Rainy	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.31	744.5	29.31	744.5	45.3	7.4	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0.157	4.0	.....	
Groningen	29.43	747.6	29.49	749.0	33.3	0.7	.....	ESE	.....	.....	2	.....	.....	.....	.....	0.106	2.7	.....	
Helder	29.40	746.7	29.40	746.7	34.5	1.4	.....	E	.....	.....	2	.....	.....	.....	.....	0.299	7.6	.....	
Hellevoetsluis	29.28	743.7	29.28	743.7	38.7	3.7	97	SE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.32	744.6	29.36	745.8	35.1	1.7	93	ESE	.....	.....	4	.....	10	.....	.....	0.677	17.2	Overcast	H. v. d. Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.37	746.0	29.43	747.4	32.0	0.0	89	SE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	
Bröno	29.16	740.6	29.20	741.6	32.0	0.0	90	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.10	739.2	29.25	743.0	34.2	1.2	68	W	20	9	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.28	743.6	29.32	744.7	36.7	2.6	72	NE	25	11	.....	.....	10	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.00	762.0	30.19	766.9	58.6	14.8	87	W	6.3	2.8	.....	.....	5	.....	.....	0.039	1.0	.....	Dr. J. A. Sampaio.
Campo Major	29.26	743.3	30.32	770.2	45.5	7.5	97	SSE	1.3	0.6	.....	10	.....	.....	.....	0	0	Dust-haze...	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.26	768.5	30.34	770.7	66.0	18.9	67	SW	3.1	1.4	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.91	759.8	30.28	769.0	53.1	11.7	97	S	1.3	0.6	.....	.....	10	.....	.....	0.016	0.4	.....	The Staff.
Ponta Delgada, (Azores)	30.19	766.7	30.26	768.5	62.6	17.0	78	NW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers of the four preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h. 8 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids	.....	.....	30.01	762.3	79.5	26.4	.....	E	.....	.....	3	.....	2	.....	.....	4	ESE	D. clouds....	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Quanza, Quantic. St. Thomas Id., Gulf of Guinea, S. At.	.....	.....	29.86	758.4	83.3	28.5	.....	S	.....	.....	4	.....	4	.....	NE	2	S	D. clouds....	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda	.....	.....	29.76	756.0	83.3	28.5	.....	NNW	.....	.....	1	.....	9	.....	Calm	0	.....	D. clouds....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.21	767.3	58.1	14.5	.....	Calm	.....	.....	0	.....	1	.....	.....	0	.....	Blue sky.....	M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.21	742.0	29.65	753.1	31.6	— 0.2	89	WSW	34	15	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.87	733.4	29.30	744.3	32.0	0.0	78	SW	11	5	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	28.74	729.9	28.98	736.1	29.5	— 1.4	90	S	9	4	.....	.....	10n;k;s	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.11	739.3	29.12	739.7	24.8	— 4.0	89	SSE	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.04	737.7	29.70	754.4	30.9	— 0.6	62	NW	13	6	.....	.....	7k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.71	754.7	29.78	756.5	34.5	1.4	82	NNW	18	8	.....	.....	10n	.....	.....	.....	.....	Light rain...	Kurdakof.
Kertch	29.73	755.3	29.76	755.8	50.0	10.0	100	S	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Moscow	28.82	731.9	29.38	746.2	31.1	— 0.5	90	N	13	6	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.36	745.8	29.57	751.0	43.0	6.1	84	SSW	18	8	.....	.....	10	.....	.....	.....	.....	.....	MeteorologicalObs.
Archangel	29.41	747.0	29.43	747.5	18.7	— 7.4	92	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt Sselwerstow.
Tiflis	28.70	728.9	30.15	765.8	44.1	6.7	64	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.10	764.5	30.02	762.4	34.0	1.1	98	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.22	742.2	29.71	754.5	33.6	0.9	88	S	13	6	.....	.....	10	.....	.....	.....	.....	Light snow..	Cand. Fatjanow.
Kasan	29.38	746.3	29.66	753.3	33.3	0.7	98	SSE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.87	733.2	29.89	759.2	18.1	— 7.7	97	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nukuss	29.77	756.1	30.01	762.2	39.6	4.2	55	NNE	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	
Tashkend	28.47	723.1	30.24	768.2	38.5	3.6	63	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.03	762.8	30.62	777.7	6.3	—14.3	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.28	769.2	30.62	777.8	—11.7	—24.3	85	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.41	772.5	30.56	776.1	17.6	— 8.0	80	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness wtihout distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.96	760.9	30.07	763 6	55.4	13	53	WSW	3.2	1.44	.....	.....	3ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.94	760.4	29.99	761.8	61.9	16.6	50	W	3.8	1.72	.....	.....	10	.....	.....	0	0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.6	.....	.....	45.9	7.7	84	SW	6.0	2.70	.....	.....	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.98	710.5	.....	.....	37.8	3.2	97	S	3.0	1.33	.....	0	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	30.09	764.2	30.24	768.1	60.1	15.6	57	SW	1.7	0.75	.....	4	5	ENE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.13	739.9	30.03	762.8	55.8	13.2	91	W	9.4	4.2	.....	.....	8	.....	.....	0.496	12.6	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.05	763.3	30.12	765.0	66.0	18.9	89	Calm	0	0	.....	0	6k	.....	NNE	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.8	29.97	761.2	79.7	26.5	78	NNE	16.8	7.5	.....	0	3	.....	NE	0	0	Covered.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.25	768.3	30.35	770.8	59.2	15.1	75	W	6.5	2.9	.....	0	10	.....	W	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.98	761.4	30.07	763.7	74.5	23.6	84	SE	0	0	.....	2s	2k	E	E	0	0	Clear.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Umea	29.10	739.2	29.15	740.5	27.0	— 2.8	92	NE	.....	.....	2	.....	10	.....	.....	0.047	1.2	.....	
Hernosand	29.07	738.3	29.12	739.6	27.3	— 2.6	92	N	.....	.....	2	.....	10	.....	.....	0.079	2.0	Snowing	
Stockholm	28.90	734.1	29.08	738.6	27.3	— 2.6	87	NNW	.....	.....	4	.....	9	.....	.....	0.079	2.0	.....	
Wisby	29.04	737.7	29.10	739.2	31.6	— 0.2	81	NW	.....	.....	8	.....	7	.....	.....	0.039	1.0	.....	
Sub-Series.																			
Upsala	28.78	730.9	28.85	732.8	26.6	— 3.0	85	NW	15.7	7.0	.....	.....	4	.....	N	0.010	0.25	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor F. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.51	724.1	29.96	760.9	46.0	7.8	59	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.22	716.7	29.89	759.3	42.1	5.6	75	W	.....	.....	1	.....	8	.....	.....	0.394	10.0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.6 mm.; Thermometer, +6.4 cent.; Relative Humidity, —21 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.2	56.5	13.6	86	WNW	7	3.0	.....	.....	10	.....	SW	0.157	4.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.09	764.3	59.4	15.2	.....	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.01	762.2	30.12	765.1	64.9	18.3	52	NW	.....	.....	1	.....	4c	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	29.83	757.7	29.90	759.4	29.2	— 1.6	93	NE	27.5	12.3	.....	.....	10n	.....	.....	0	0	Stormy	Hon. J. Ferguson.
Brockville, Ontario	29.07	738.4	29.40	746.7	5	—15.0	.....	W	8	3.6	.....	.....	10n	.....	W	0.42	10.7	Light snow	W. R. Rigg.
*Chatham, N. B	28.80	731.5	28.87	733 3	29	— 1.7	98	NE	17	7.6	.....	.....	10n	.....	NE	0.76	19.3	Heavy snow	G. A. Blair.
Charlottetown, P. E. Island	28.81	731.8	28.86	733.0	27	— 2.8	87	SE	9	4.0	.....	.....	10n	.....	Calm	0.400	10.16	Heavy snow	H. J. Cundall, C. E.
Cornwall, Ontario	29.04	737.6	29.24	742.7	6.7	—14.1	100	NW	.....	.....	4	.....	10s	.....	.....	0.30	7.6	Overcast	James Smith, M. A
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.05	763.3	30.10	764.5	36.6	2.6	100	N	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	28.96	735.6	28.99	736.3	28	— 2.2	83	NE	45	20.1	.....	.....	10s	.....	NE	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	28.68	728.5	28.74	730.0	25.(	— 3.9	86	NE	18	8.0	.....	8c	1s	E	S	0.30	7.6	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.59	751.6	30.56	776.2	—16	—26.7	100	NW	16	7.2	.....	5k	5n	NW	NW	0	0	Cloudy	James Stewart.
Granton, Ontario	28.61	726.7	29.82	757.4	3	—16.1	.....	W	.....	.....	4	.....	10n	.....	.....	0.20	5.1	Snowing	James Grant.
*Halifax, N. S	28.76	730.5	28.89	733.8	25	— 3.9	94	W	17	7.6	.....	.....	8n	.....	W	0.400	10.16	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.36	745.7	29.77	756.1	1.3	—17.1	94	W	.....	.....	3	10cs	0	W	.....	.....	.....	Snowing	Geo. Dickson, M. A.
Heart's Content, N. F	29.22	742.2	29.24	742.7	28	— 2.2	100	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	E. Weedon.
*Kingston, Ontario	29.14	740.1	29.50	749.3	3	—19.4	68	W	17	7.6	.....	.....	10ks	.....	W	0.12	3.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	28.96	735.6	29.00	736.6	31.2	— 0.4	93	S	18	8.0	.....	.....	10n	.....	.....	0.70	17.8	Snowing	C. H. Rigby.
*Montreal, Quebec	28.94	735.1	29.16	740.6	7	—13.9	98	W	35	15.6	.....	.....	10n	.....	.....	0.83	21.1	Light snow	C. H. McLeod, C. E.
Moose Factory, Ontario	29.67	753.6	29.71	754.6	6.0	—14.4	95	N	.....	.....	5	.....	10n	.....	.....	0.02	0.5	Snowing	J. R. Nason.
*Parry Sound, Ontario	28.93	734.8	29.69	754.1	— 1	—18.3	79	NW	20	8.9	.....	2cs	2ks	NW	NW	0.28	7.1	Fair	Rev. R. Mosley.
Peterboro, Ontario	28.76	730.5	29.59	751.6	—0.7	—18.2	.....	W	.....	.....	.....	0	0	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.08	738.6	29.85	758.2	0	—17.8	100	SW	20	8.9	.....	5k	0	SW	.....	0.02	0.5	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.95	760.7	— 7	—21.7	96	W	.....	.....	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	28.65	727.7	28.98	736.1	17	— 8.3	100	NE	.....	.....	1	.....	10n	.....	NE	1.50	38.1	Heavy snow	Capt. Ashe, R. N
*Rockliffe, Ontario	28.99	736.3	29.49	749.0	4	—15.6	95	NW	8	3.6	.....	.....	10n	.....	.....	0.12	3.0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	28.53	724.6	28.58	725.9	24	— 4.4	89	S	.....	.....	3	.....	10n	.....	.....	0.65	16.5	Cloudy	Dr. Gove.
St. John, N. B	28.56	725.4	28.72	729.5	25	— 3.9	87	SE	24	10.7	.....	.....	10n	.....	.....	0.58	14.7	Light snow	G. Murdock, C. E.
*Saugeen, Ontario	28.96	735.6	29.73	755.1	14	—10.0	88	NW	36	16.1	.....	.....	10n	.....	W	0.34	8.6	Cloudy	K. Stewart.
Stayner, Ontario	28.83	732 3	29.67	753 6	9	—12.8	87	NW	15	6.7	.....	.....	10n	.....	NW	0.64	16.3	Light snow	R. J. Cole.
Stratford, Ontario	28.38	720.8	29.77	756.1	8.4	—13.1	96	W	23.5	10.5	.....	.....	10s	.....	.....	0	0	.....	C. J. MacGregor, M. A
*Sydney, C. B	28.97	735.8	29.01	736.8	31	— 0.6	98	E	18	8.0	.....	.....	10n	.....	.....	0.11	2.8	Light snow	T. C. Hill.
*Toronto, Ontario	28.26	717.8	29.67	753.6	8	—13.3	89	W	22	9.8	.....	5cs	2s	W	W	0.04	1.0	Cloudy	Magnetic Observatory.
Windsor, N. S	28.76	730.5	28.86	733.0	25	— 3.9	81	E	17	7.6	.....	4ck	0	.....	.....	0.30	7.6	Fair	Prof. John E Oran.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	27.0	— 2.8	88	SE	.....	.....	.....	Sm'e	Sm'e	.....	.....	0.25	6.3	Smoky	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From —	CLOUDS. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.23	742.4	29.47	748.5	2	—16.7	72	W	5	2.2	.....	Haze	2s	.....	W	0.27	6.9	Fair	
Alpena, Michigan	29.19	741.4	29.89	759.2	8	—13.3	78	W	20	8.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Atlanta, Georgia	29.06	738.1	30.33	770.4	11	—11.7	79	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.84	757.9	29.85	758.2	0	—17.8	70	W	20	8.9	.....	0	0	.....	.....	0.02	0.5	Clear	
Augusta, Georgia	30.08	764.0	30.27	768.8	23	0.6	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.95	760.7	30.00	762.0	1	—17.2	85	W	15	6.7	.....	0	Haze	.....	Calm	0.04	1.0	Clear	
Barnegat, New Jersey	29.75	755.6	29.78	756.4	1	—17.2	71	W	33	14.8	.....	0	0	.....	.....	0.15	3.8	Clear	
Bismarck, Dakota	28.62	726.9	30.48	774.2	—26	—32.2	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.82	732.0	30.22	767.6	31	— 0.6	89	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.31	693.7	30.27	768.8	11	—11.7	79	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.13	739.9	29.29	744 0	5	—15.0	50	W	34	15.2	.....	1cs	0	NW	.....	0.46	11.7	Clear	
Bracketville, Texas	29.14	740.1	30.22	767.6	38	3.3	72	E	10	4.5	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Breckenridge, Minnesota	29.46	748.3	30.67	779.0	—24	—31.1	91	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.15	765.8	30.22	767.6	50	10.0	100	N	4	1.8	.....	.....	10n	.....	Calm	0.35	8.9	Heavy rain	
Buffalo, New York	28.96	735.6	29.71	754.6	7	—13.9	77	SW	36	16.1	.....	.....	10n	.....	SW	0.41	10.4	Light snow	
Burkes, Arizona	.....	.....	.....	.....	32	0.0	50	SE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	28.92	734.6	29 22	742.2	14	—10.0	46	W	20	8.9	.....	.....	10s	.....	W	0.14	3.6	Clear	
Cairo, Illinois	30.21	767.3	30.67	779.0	— 1	—18.3	68	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	43	6.1	92	E	2	0.9	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Camp Verde, Arizona	.....	.....	.....	.....	33	0.6	51	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.39	695.7	29.96	761.0	40	4.4	91	E	4	1.8	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Cape Hatteras, N. Carolina	30.06	763.5	30.07	763.8	22	— 5.6	72	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.99	761.7	30.01	762.2	15	— 9.4	30	NW	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.08	764.0	30.09	764.3	24	— 4.4	48	NW	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.86	758.4	29 90	759.4	4	—15.6	74	NW	50	22.4	.....	0	0	.....	.....	0.10	2.5	Clear	
Castroville, Texas	29.51	749.5	30.27	768.8	36	2.2	71	NE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.17	766.3	30.24	768.1	30	— 1.1	57	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	—10	—23.3	100	NW	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Chicago, Illinois	29.54	750.3	30.36	771.1	—13	—25.0	74	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.72	754 9	30.49	774.4	— 9	—22.8	37	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.33	745.0	30.17	766.3	—15	—26.1	70	SW	18	8.0	.....	0	0	.....	.....	0.01	0.3	Clear	
Coleman City, Texas	28.53	724.6	30.34	770.6	23	— 5.0	73	NE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Columbus, Ohio	29.39	746.5	30.38	771.6	—18	—27.8	33	SW	12	5.4	.....	0	Fog	.....	Calm	0	0	Clear	
Corpus, Texas	28.30	718.8	30.09	764.3	30	— 1.1	78	NE	12	5.4	.....	.....	10s	.....	E	0	0	Cloudy	
Corsicana, Texas	29.94	760.5	30.46	773.7	21	— 6.1	71	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.80	756.9	30.57	776.5	—17	—27.2	68	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.42	645.7	.....	.....	—22	—30.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.21	741.9	30.54	775.7	12	—11.1	61	NE	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.68	753.9	30.58	776.7	10	—12.2	80	N	10	4.5	.....	5k	0	W	.....	0	0	Fair	
Denver, Colorado	24.82	630.4	30.04	763.0	— 6	—21.1	61	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.64	752.8	30.70	779.8	—20	—28.9	63	NW	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.32	744.7	30.09	764.3	—11	—23.9	52	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.79	705.8	30.42	772.6	— 2	—18.9	67	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dubuque, Iowa	29.67	753.6	30.50	774.7	—16	—26.7	70	NW	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.58	751.3	30.37	771.4	—10	—23.3	77	SW	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.46	748.3	30.25	768.3	39	3.9	100	SE	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Eastport, Maine	28.51	724.1	28.58	725.9	21	— 6.1	86	S	16	7.2	.....	.....	10n	.....	S	0.55	14.0	Light snow	
Edinburg, Texas	29.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	47	8.3	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Erie, Pennsylvania	29.18	741.2	29.98	761.5	— 5	—20.6	100	SW	19	8.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Escanaba, Michigan	29.37	746.0	30.10	764.5	— 5	—20.6	63	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.60	726.4	30.10	764.5	48	8.9	85	SW	.....	.....	1	2c	5s	Calm	Calm	0	0	Fair	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	30	— 1.1	78	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.21	640.3	30.17	766.3	43	6.1	60	SW	1	0.4	.....	10k	0	W	.....	0	0	Cloudy	
Fort Gibson, Indian Ter	30.04	763.0	30.67	779.0	— 1	—18.3	83	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.14	740.1	30.56	776.2	16	— 8.9	83	N	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Fort McKavett, Texas	28.00	711.2	30.05	763.3	30	— 1.1	78	E	11	4.9	.....	.....	10s	.....	E	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.26	743.2	30.52	775.2	8	—13.3	78	NE	16	7.2	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.64	727.4	.....	.....	—31	—35.0	100	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.55	725.2	30.23	767.8	30	— 1.1	78	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.28	769.1	30.33	770.4	37	2.8	63	NE	16	7.2	.....	0	5s	.....	NE	Inap.	Inap.	Fair	
Graham, Texas	29.32	744.7	30.51	774.9	14	—10.0	82	N	6	2.7	.....	0	8s	.....	W	0	0	Cloudy	
Grand Haven, Michigan	29.41	747.0	30.12	765.0	9	—12.8	78	NW	28	12.5	.....	.....	10s	.....	NW	0.17	4.3	Cloudy	
Indianapolis, Indiana	29.55	750 6	30.47	773.9	—15	—26.1	71	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.20	769.4	30.32	770.1	40	4.4	91	NE	20	8.9	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
Jacksboro, Texas	29.21	741.9	30.48	774 2	14	—10.0	82	N	2	0.9	.....	5cs	0	N	.....	0	0	Fair	
Jacksonville, Florida	30.21	767.3	30.24	768.1	36	2.2	45	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.90	759.4	30.64	778.2	—15	— 9.4	71	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.09	764.3	30.12	765.0	68	20.0	90	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk, North Carolina	30.01	762.2	30.04	763.0	18	— 7.8	37	NW	22	9.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Knoxville, Tennessee	29.34	745.2	30.48	774.2	2	—16.7	72	NW	3	1.3	.....	0	Haze	.....	.....	0.01	0.3	Clear	
La Crosse, Wisconsin	29.61	752.1	30.48	774.2	—14	—25.6	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	31	— 0.6	89	SW	1	0.4	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Laredo, Texas	29.84	757.9	30.20	767.1	37	2.8	100	NE	4	1.8	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Leavenworth, Kansas	29.73	755.1	30.74	780.8	—13	—25.0	74	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.64	752.8	29.98	761.5	53.6	12.0	77	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.87	758.7	30.52	775.2	— 6	—21.1	61	SW	8	3.6	.....	.....	Sm'e	.....	SW	0	0	Smoky	
Lynchburg, Virginia	29.39	746.5	30.14	765.5	6	—14.4	52	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.24	742.7	30.40	772.1	—17	—27.2	67	W	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.26	743.2	30.03	762.7	5	—15.0	75	NW	20	8.9	.....	.....	10s	.....	NW	0.08	2.0	Cloudy	
Mason, Texas	28.63	727.2	30.52	775.2	31	— 0.6	78	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	30.33	770.4	30.70	779.8	8	—13.3	53	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.46	748.3	30.32	770.1	—16	—26.7	73	W	18	8.0	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.35	770.9	30.40	772.1	26	— 3.3	63	N	13	5.8	.....	0	1s	.....	NW	0	0	Clear	
Montgomery, Alabama	30.16	766.1	30.42	772.6	19	— 7.2	76	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	29.08	738.6	30.26	768.6	3	—16.1	73	S	11	4.9	.....	5cs	0	S	.....	0.12	3.0	Fair	
Mt. Washington, N. H.	22.36	567.9	28.72	729.5	—15	—26.1	100	NW	87	38.9	.....	.....	Fog	.....	NW	0.63	16.0	Foggy	
Nashville, Tennessee	29.97	761.2	30.59	777.0	— 1	—18.3	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.45	748.0	29.58	751.3	7	—13.9	54	W	17	7.6	.....	0	0	.....	.....	0.12	3.0	Clear	
New London, Connecticut	29.46	748.3	29.51	749.5	2	—16.7	44	W	18	8.0	.....	0	1s	.....	W	0.23	5.8	Clear	
New Orleans, Louisiana	30.29	769.4	30.35	770.9	36	2.2	53	N	8	3.6	.....	0	8ks	.....	Calm	0	0	Fair	
Newport, Rhode Island	29.39	746.5	29.45	748.0	6	—14.4	52	W	28	12.5	.....	0	0	.....	.....	0 47	11.9	Clear	
New York, New York	29.54	750.3	29.74	755.4	— 2	—18.9	68	NW	20	8.9	.....	0	1s	.....	Calm	0.11	2.8	Clear	
Norfolk, Virginia	30.00	762.0	30.06	763.5	14	—10.0	64	NW	17	7.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
North Platte, Nebraska	27.44	697.0	30.43	772.9	— 8—	22.2	58	N	3	1.3	.....	Haze	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	30.2	— 1.0	89	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	29.42	747.2	30.76	781.3	—20	—28.9		NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.16	740.6	29.49	749.0	16	— 8.9	83	W	32	14.3	.....	.....	10n	.....	.....	0.21	5.3	Heavy snow	
Pembina, Dakota	29.60	751.8	30.58	776.7	—18	—27.8	100	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	29.80	756.9	29.86	758.4	0	—17.8	71	W	20	8.9	.....	0	0	.....	.....	0.07	1.8	Clear	
Phœnix, Arizona	28.88	733.5	30.71	780.0	51	10.6	80	SE	.....	.....	1	0	5ks	.....	S	0	0	Fair	
Pike's Peak, Colorado	17.46	442.1	29.67	753.6	— 2	—18.9	35	NW	20	8.9	.....	0	1s	.....	NW	0.02	0.5	Fair	
Pioche, Nevada	24.03	610.4	29.80	756.9	31	— 0.6	71	SW	1	0.4	.....	0	5s	.....	W	0	0	Fair	
Pittsburg, Pennsylvania	29.27	743.4	30.20	767.1	—11	—23.9	76	W	17	7.6	.....	.....	8s	.....	W	Inap.	Inap.	Cloudy	
Port Huron, Michigan	29.22	742.2	29.96	761.0	— 2	—18.9	67	W	21	9.4	.....	0	2ks	.....	.....	0	0	Clear	
Portland, Maine	28.94	735.1	28.99	736.3	16	— 8.9	83	W	24	10.7	.....	5k	5s	Calm	Calm	0.75	19.1	Cloudy	
Portland, Oregon	30.20	767.1	30.31	769.9	29.5	— 1.4	78	NE	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Prescott, Arizona	24.71	627.6	30.07	763.8	26	— 3.3	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.35	745.5	30.24	768.1	24	— 4.4	48	N	1	0.4	.....	2k	0	NW	.....	0	0	Fair	
Punta Rassa, Florida	30.12	765.0	30.14	765.5	63	17.9	78	NW	15	6.7	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Red Bluff, California	29.74	755.4	30.10	764.5	37	2.8	81	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.08	764.0	30.30	769.6	44	6.7	92	N	10	4.5	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Rochester, New York	28.93	734.8	29.58	751.3	5	—15.0	75	W	31	13.9	.....	.....	10n	.....	Calm	0.09	2.3	Light snow	
Roseburg, Oregon	29.70	754.4	30.31	769.9	23.5	— 4.7	97	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Sacramento, California	29 99	761.7	30.07	763.8	41	5.0	87	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.97	761.2	30.65	778.5	— 8	—22.2	58	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.27	768.8	30.29	769.4	30	— 1.1	47	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.50	749.3	30.48	774.2	—13	—25.0	74	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	21	— 6.1	71	NW	2	0.9	.....	5k	0	Calm	.....	0	0	Fair	
San Antonio, Texas	29.55	750.6	30.17	766.3	36	2.2	71	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.95	760.7	30.02	762.5	53.0	11.7	93	NE	5	2.2	.....	0	5s	.....	Calm	0.87	22.1	Fair	
Sandusky, Ohio	29.43	747.5	30.21	767.3	—12	—24.4	50	SW	25	11.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Sandy Hook, New Jersey	29.68	753.9	29.71	754.6	0	—17.8	70	W	.....	.....	.....	2k	0	W	.....	0	0	Fair	
San Francisco, California	30.02	762.5	30.08	764.0	48	8.9	85	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.25	590.5	29.79	756.7	19	— 7.2	54	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.15	765.8	30.25	768.3	28	— 2.2	43	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.26	768.6	30.50	774.7	21	— 6.1	85	NE	8	3.6	.....	2c	0	S	.....	0	0	Fair	
Silver City, New Mexico	24.28	616.7	30.58	776.7	38	3.3	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Smithville, North Carolina	30.14	765.5	30.18	766.6	23	— 5.0	73	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.30	744.2	29.44	747.8	8	—13.3	33	SW	12	5.4	.....	0	8ks	.....	SW	0.22	5.6	Fair	
Stockton, Texas	27.07	687.6	30.07	763.8	30	— 1.1	89	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Thatcher's Island, Mass	29.14	740.1	29 20	741.7	8	—13.3	78	W	42	18.8	.....	2k	5s	NW	NW	0.67	17.0	Fair	
Toledo, Ohio	29.42	747.2	30.26	767.1	—10	—23.3	54	W	17	7.6	.....	0	5ks	.....	W	0	0	Fair	
Tucson, Arizona	.....	.....	.....	.....	50	10.0	71	Calm	0	0	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Tybee Island, Georgia	30.21	767.3	30.24	768.1	28	— 2.2	54	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	30.05	763.3	30.61	777.5	3.0	—16.1	86	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	33	0.6	79	SW	.....	.....	1	.....	10s	.....	SW	0.09	2.3	Cloudy	
Uvalde, Texas	29.37	746.0	30.25	768.3	35	1.7	80	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Vicksburg, Mississippi	30.22	767.6	30.51	774.9	21	— 6.1	71	NE	5	2.2	.....	5os	0	W	.....	0	0	Fair	
Virginia City, Montana	24.22	615.2	29.70	754.4	7	—13.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.70	754.4	30.09	764.3	40	4.4	91	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.90	759.4	30.03	762.8	0	—17.8	70	NW	25	11.2	.....	0	0	.....	.....	0.07	1.8	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	37	2.8	90	NE	.....	.....	1	.....	10ks	.....	SW	0	0	Cloudy	
Wilmington, N. Carolina	30.06	763.5	30.15	765.8	22	— 5.6	58	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	9	—12.8	78	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.34	745.2	29.38	746.2	11	—11.7	79	W	46	20.6	.....	Haze	2ks	Calm	W	0.30	7.6	Clear	
Yankton, Dakota	29.28	743 7	30.87	784.1	—26	—32.2	51	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.86	758.4	30.02	762.5	52	11.1	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
SUB-SERIES.																			
Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Fayettville, Ark	28 79	731.3	30.43	772.9	— 6	—21.1	61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Havana, Cuba, W. I	30.09	764.3	30.11	764.8	71	21.7	75	Calm	0	0	.....	4k	0	NW	.....	0	0	Fair	James Gall.
Kingston, Jamaica, W. I	30.22	767.6	30.23	767.8	74	23.3	85	N	3	1.3	.....	2c	2s	N	Calm	0	0	.....	Thomas Herran.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Navassa, W. I	29.96	761.0	30.04	763 0	77	25.0	.....	N	15.0	6.7	.....	.....	.....	.....	.....	.....	.....	Partly cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	80	26.7	87	NE	.....	.....	3	.....	8ks	NE	.....	0.100	2.54	½ clouded	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.41	772.4	...	.....	—17.5	—27.5	68	NW	16	7.2	.....	2c	2s	NW	.....	0.05	1.3	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,233 (?) ft., or 406.3 (?) m.; Boise City, 2,809 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,473.2 (?) m.; Camp Verde, 2,700 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,757 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,020 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,110.2 (?) ft., or 341.5 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,286 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,802.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12	765.0	44	6.7	44	6.7	84	Calm	0	0	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	
Navy Yard, Pensacola, Fla.	30.35	770.9	30	— 1.1	30	— 1.1	78	N	6	2.7	.....	.....	•••••••••	.....	N	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.17	740.9	47	8.3	10	—12.2	58	NW	10	4.5	.....	.....	27	.....	.....	.....	.....	.....	.....	Heavy snow?	
Naval Hospital Yokohama, Japan *	30.19‡	766.8‡	.....	.....	41	5.0	91	SW	.....	.....	1	•••••••••	0	.....	.....	0	0	.....	.....	Clear.....	
Alaska, Panama	30.12	765.0	79	26.1	76	24.4	82	NW	.....	.....	2	•••••••••	2	.....	SE	0	0	.....	.....	D. clouds....	
Alliance, Smyrna, Turkey	29.96‡	761 0‡	.....	.....	63	17.2	72	ENE	.....	.....	0–1	.....	5	.....	W	.....	.....	.....	.....	Pleasant.....	
Ashuelot, N 13° 13′, E. 100° 41′	30.13	765.3	81	27.2	76	24.4	54	NNW	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La	30.27	768.8	35	1.7	35	1.7	63	NNE	.....	.....	6	.....	8	.....	NNE	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	29.04	737.6	1	—17.2	0	—17.8	100	WSW	30	13.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, Havre, France	29.46‡	748.3‡	.....	.....	52	11.1	100	WSW	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	29.91‡	759.7‡	.....	.....	56	13.3	94	NW	.....	.....	2	.....	8	.....	W	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.	30.13	765.3	58	14.4	15	— 9.4	82	NW	20.4	9.1	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Gettysburg, Villafranca, France	29.89‡	759.2‡	.....	.....	55	12.8	100	Calm	.....	.....	0	.....	5	.....	.....	0	0	Smooth	.....	D. clouds.....	
Hartford, Montevideo, Uruguay	30.07	763.8	68	20.0	70	21.1	52	NW	16.0	7.2	.....	.....	5	.....	.....	0	0	Smooth	.....	Fair.....	
Lackawana, Off Realejo, Nicaragua	29.80‡	756.9‡	.....	.....	77	25.0	86	ENE	.....	.....	1	.....	0	.....	.....	0	0	Light	S	Clear	
Michigan, Erie, Pa	30.00†	762.0†	.....	.....	— 7	—21.7	59	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy, Yokohama, Japan *	30.26‡	768.6‡	.....	.....	38	3.3	81	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Light haze..	
New Hampshire, Port Royal, S. C.	30.29†	769.4†	.....	.....	29	— 1.7	.....	NW	16	7.2	.....	.....	5?	.....	NW	.....	.....	.....	.....	Clear?.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	69	20.6	85	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.44	773.2	24	— 4.4	19	— 7.2	100	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	3	—16.1	19	NW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Punta Arenas, Costa Rica	29.88‡	758.9‡	.....	.....	74	23.3	95	NE	1.5	0.7	.....	.....	1	.....	.....	0	0	.....	.....	Clear	
Powhatan, Norfolk, Va.	29 97	761.2	18	— 7.8	19	— 7.2	69	WNW	23.0	10.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Quinnebaug, Norfolk, Va.	30.07‡	763.8‡	.....	.....	17	— 8.3	.....	WNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Richmond, New York, N. Y.	29.49‡	749.0‡	.....	.....	2	—16.7	100	WNW	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas	30.10	764.5	55	..12.8	50	10.0	100	WNW	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Light rain...	
Santee, Annapolis, Md	30.02‡	762.5‡	.....	.....	30	— 1.1	.....	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	29.81	757.2	48	8.9	0	—17.8	.....	NNW	25	11.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Supply, N. 49° 58′, W. 1° 20′	29.48‡	748 8‡	.....	.....	50	10.0	93	WSW	.....	.....	5	.....	8	.....	W	.....	.....	Mod'ate	W	Cloudy.....	
Trenton Villafranca, France *	30.09‡	764 3‡	.....	.....	58	14.4	88	S	.....	.....	0–1	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Tuscarora, San Joze, Gautamala	29.94‡	760.5‡	.....	.....	77	25.0	82	N	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Vandalia, N. 30° 02′, W. 70° 18′	29.91‡	759.7‡	.....	.....	69	20.6	80	W	.....	.....	5	.....	8	.....	W	.....	.....	Mod'ate	W	Cloudy.....	
Wabash, Boston, Mass	29.34‡	745.2‡	.....	.....	6	—14.4	.....	NW	12	5.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Anerold Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 8° 32', W. 83° 52'		29.97*	761.2*	80	26.7	91	S			2		2		NW			WSW	Misty	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Grenada																			R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.10	764.5				SSE			1		10		N				Gloomy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 25° 56', E. 120° 40'		30.12†	765.0†	58	14.4	100	NE			6		k		SW	0	High	NE	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionaly by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'per 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 45° 8', W. 51° 23'.....	.....	29.23*	742.4*	35	1.7	??	WSW	.....	.....	2	.....	6	.....	SW	0	Mod'ate	WNW	Cloudy.....	Captain Sargent.
S. S. Ohio, N. 50° 55', W. 28° 20'... ...	.....	28.42†	721.9†	58	14.4	??	S	.....	.....	3	.....	8	.....	S	Blank	Cross	Var.	Clear.	Captain Morrison.
S. S. Pennsylvania, Capt. Harris ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the cooperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 48° 35' W. 47° 57'.....	.....	29.07*	738.4*	38	3.3	.....	WSW	.....	.....	6	.....	10	.....	WSW	Blank	Long	Var.	Overcast.. ...	Capt. W. Richardson.
S. S. Hiberuan,.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

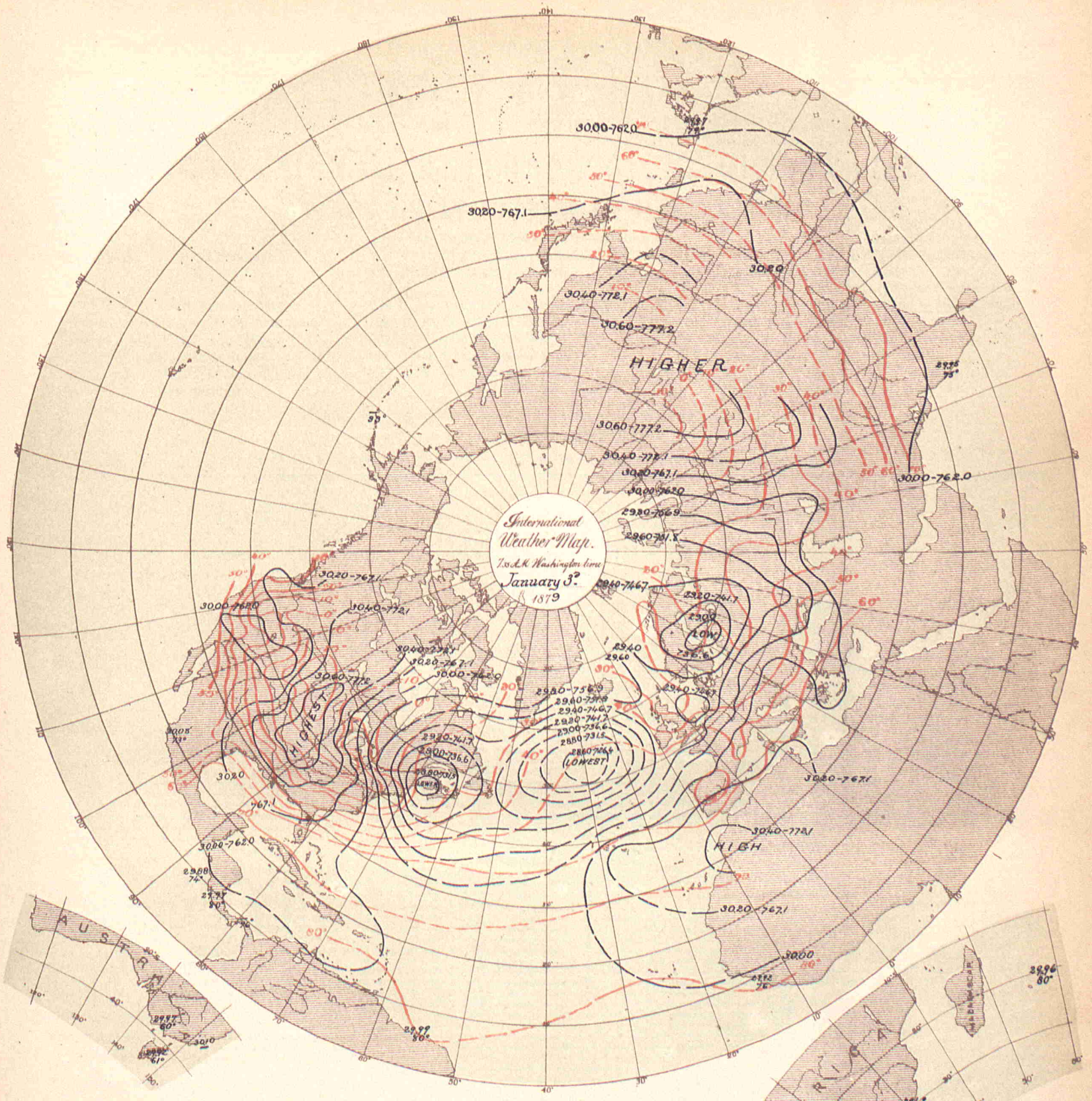
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 4, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.44	773.2	62.1	16.7	83	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair.	
Nemours	.....	.....	30.34	770.7	62.8	17.1	80	WNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.22	767.6	63.0	17.2	64	W	.....	.....	4	.....	2	.....	.....	0	0	Fair	Touriliere.
La Calle	.....	.....	30.18	766.5	62.2	16.8	72	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	30.12	765.1	62.8	17.1	59	NW	.....	.....	5	.....	10	.....	.....	0	0	Covered	Jacques.
Sfax	.....	.....	30.26	768.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gac.
Saida	.....	.....	30.26	768.6	61.2	16.2	33	ESE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.15	765.9	63.0	17.2	30	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.21	767.2	55.8	13.2	98	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.23	767.9	65.8	18.8	25	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Bertrand.
Biskra	.....	.....	30.26	768.6	61.7	16.5	30	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.04	737.5	29.59	751.5	47.7	8.7	78	NW	.....	.....	2	.....	10	.....	.....	0.815	20.7	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.70	729.0	29.48	748.7	42.1	5.6	82	WSW	.....	.....	2	.....	10	.....	.....	0.020	0.5	.....	Dr. Wierzbiski
Eperies	28.70	729.0	29.61	752.1	32.4	0.2	96	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.37	720.5	29.64	752.8	38.5	3.6	77	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.28	718.2	29.73	755.2	38.8	3.8	70	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.22	716.9	29.57	751.0	45.5	7.5	99	W	.....	.....	2	.....	6	.....	.....	0.106	2.7	.....	Prof. C. Wagner.
Lemberg	28.49	723.7	29.50	749.3	36.7	2.6	82	NW	.....	.....	1	.....	10	.....	.....	0.035	0.9	.....	Dr. T. Stanecki.
Pola	29.56	750.9	29.68	753.8	49.1	9.5	91	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.22	742.3	29.71	754.5	34.2	1.2	92	E	.....	.....	4	.....	10	.....	.....	0.650	16.5	.....	Julius Csics, S. J.
Szegedin	29.36	745.8	29.65	753.1	38.5	3.6	85	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.59	751.6	29.69	754.2	47.1	8.4	92	ESE	.....	.....	1	.....	10	.....	.....	1.787	45.4	Rain & fog	P. Busin.
Vienna	28.87	733.3	29.59	751.6	47.7	8.7	64	WSW	.....	.....	4	.....	10	.....	.....	0.028	0.7	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, m. p.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.61	752.1	29.71	754.6	35.2	1.8	.....	NW	26	11.6	.....	.....	2	.....	.....	0.025	0.64	Blue sky.....	W. Boswell.
Ardrossan	29.80	756.9	29.81	757.2	39	3.9	.....	NNW	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	29.95	760.7	34.0	1.1	.....	WNW	9	4.0	.....	.....	3	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.81	757.2	38.4	3.6	.....	NW	22	9.8	.....	.....	.....	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton	.....	.....	29.79	756.7	35.2	1.8	.....	NW	72.0	32.2	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.36	745.7	29.76	755.9	37.1	2.8	.....	NE	.....	.....	2	.....	7	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.98	761.5	80	26.7	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.73	755.1	36.0	2.2	.....	NW	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds.....	H. Todd. [O.
Cardington	.....	.....	29.77	756.1	34.0	1.1	.....	N	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John McLaren.
Chatham, School M. E.	29.63	752.6	29.76	755.9	34.2	1.2	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Lt. W. G. Morris, R.E.
Dartmoor	28.37	720.6	29.88	758.9	37.0	2.8	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	29.84	757.9	29.88	758.9	39	3.9	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.73	755.1	29.75	755.6	35	1.7	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.72	754.9	29.95	760.7	43.6	6.4	.....	NNW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.30	693.4	29.61	752.1	67.4	19.7	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.70	754.4	29.93	760.2	78	25.6	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.01	762.2	41	5.0	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.28	769.1	30.33	770.4	60.4	15.8	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.61	752.1	29.81	757.2	35.9	2.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.67	753.6	32	0.0	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	Foggy.....	G. T. Watson.
Greenwich, Royal Obs'y	29.64	751.8	29.78	756.4	36.2	2.3	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy	The Staff, for G. B. Airy
Guernsey	29.64	752.8	29.87	758.7	40	4.4	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.83	757.7	29.95	760.7	40	4.4	.....	N	.....	.....	1	.....	2c	.....	.....	0.30	7.6	Fine	M. P. Moyle.
Holyhead	29.84	757.9	29.90	759.4	42	5.6	.....	NW	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.58	751.3	29.88	758.9	42.0	5.6	.....	N	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	29.75	755.6	29.79	756.7	37.6	3.1	.....	WNW	10	4.5	.....	.....	2	.....	.....	.....	.....	Misty.....	The Staff.
Kingstown	29.92	760.0	29.95	760.7	36	2.2	.....	WNW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	George Mitchell.
Leicester, Museum	29.51	749.5	29.77	756.1	35.6	2.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.00	762.0	30.07	763.8	65	18.3	.....	W	.....	.....	1	.....	2k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	29.71	754.6	29.81	757.2	35	1.7	.....	NNW	.....	.....	4	.....	8	.....	.....	.....	.....	¾ covered...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.16	766.1	66.0	18.9	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.58	751.3	29.77	756.1	36.2	2.3	.....	WSW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.80	756.9	36.2	2.3	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.79	756.7	35	1.7	.....	W	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	H. E. Bellamy.
Plymouth	29.83	757.7	29.90	759.4	41.3	5.2	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	John Merrifield.
Roche's Point	29.96	761.0	30.00	762.0	38	3.3	.....	N	.....	.....	3	.....	2	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	29.77	756.1	29.93	760.2	42	5.6	.....	NNW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.71	754.6	24.9	— 3.9	.....	NW	30	13.4	.....	.....	6	.....	.....	.....	.....	Showery	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.94	760.5	53.8	12.1	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds..	Sergt. W. H. Lyne.
Sheffield	29.50	749.3	29.79	756.7	38.4	3.6	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Misty.....	W. F. Cooper.
Silloth Rectory	29.77	756.1	29.80	756.9	37.8	3.2	85	NE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	F. H. Redford.
Stonyhurst, Observatory	29.38	746.2	29.79	756 7	38.0	3.3	.....	WNW	.....	.....	2	.....	.....	.....	.....	0	0	Misty.....	Rev. S. J. Perry.
Stratfield Turgiss	29.58	751.3	29.80	756.9	37.4	3.0	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C. H. Griffith, F.M.S.
Thurso	29.68	753.9	29.74	755.4	37	2.8	.....	NNW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.99	761.7	47	8.3	.....	N	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	30.04	763.0	30.07	763.8	42.3	5.7	.....	W	6	2.7	.....	.....	1	.....	.....	.....	.....	Blue sky.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.54	750.3	77.0	25.0	89	N	.....	.....	1	.....	6k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.82	757.4	37.5	3.1	.....	NW	.....	.....	2	2ck	.....	N	.....	0	0	.....	Andrew Gibb.
Mauritius, Observatory	29.84	757.9	30.02	762.6	82.0	27.8	63	ESE	18.5	18.3	.....	0	5	.....	ESE	0	0	.....	C. Meldrum.
Melbourne, Observatory	29.65	753.1	29.74	755.4	83.0	28.3	34	W	24	10.7	.....	.....	6	.....	.....	0	0	Lightning...	R. L. J. Ellery.
Monach L't-house, (Hebrides	.....	.....	29.93	760.2	38	3.3	.....	NNW	.....	.....	7	10?	5?	W	.....	0.2	5.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. *Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	63.0	17.2	80	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.34	745.2	29.39	746.4	32.0	0.0	89	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Fanöe	29.42	747.2	29.44	747.7	31.8	— 0.1	85	W	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Vestervig	29.22	742.2	29.39	746.5	32.4	0.2	94	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower cloud; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.20	741.8	29.76	755.8	45.7	7.6	97	NE	.....	.....	1	.....	10	.....	.....	0.110	2.8	Raining	Collignon, Director.
Amiens, Normal School	29.61	752.2	29.72	755.0	41.4	5.2	84	W	.....	.....	1	.....	2	.....	E	0.528	13.4	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.83	757.7	29.91	759.7	47.7	8.7	86	NNW	.....	.....	1	.....	8	.....	WSW	0	0	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	29.10	739.1	29.67	753.6	47.1	8 4	82	SW	.....	.....	1	.....	10	.....	SW	0.055	1.4	Light rain	C. Saillard, Director.
Beauvais, Normal School	29.32	744.8	29.61	752.2	40.8	4.9	74	NNW	.....	.....	1	.....	8	.....	N	0.532	13.50	Very cloudy	Frere Eugene Marie, Director.
Besançon, Normal School	28.86	733.0	29.76	756.0	46.0	7.8	89	S	.....	.....	6	.....	10	.....	.....	0.713	18.1	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.89	733.9	29.80	756.8	44.8	7.1	94	S	.....	.....	2	.....	10	S	S	0.24	6.	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director
Brest, Naval Observatory	29.63	752.7	29.88	758.9	45.7	7.6	83	NNE	.....	.....	3	.....	10	.....	NNE	0.039	1.00	Misty	M.de Rermaur, Director.
Carcassonne, Normal School	29.56	750.7	29.98	761.4	50.7	10.4	68	W	.....	.....	2	.....	10	W	W	0.606	15.4	Covered	September, Director.
Caen, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Lair, Director.
Chartres, Normal School	29.10	739.1	29.67	753.7	42.3	5.7	78	N	.....	.....	3	.....	10	.....	NE	0.492	12.5	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.37	746.0	29.69	754.2	36.1	2.3	93	SW	.....	.....	2	.....	8	.....	.....	0.236	6.0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.36	720.4	29.72	754.8	50.5	10.3	62	SW	.....	.....	3	.....	10	.....	W	0.071	1.8	Covered	Alluard, Director.
Commercy, Normal School	28.78	731.1	29.69	754.1	40 3	4.6	97	NW	.....	.....	1	.....	10	.....	NW	0.638	16.2	Heavy rain	Dr. Coulier, Director.
Commune de Gréasque*	28.80	731.4	29.94	760 4	47.3	8.5	73	W	.....	.....	1	.....	10	.....	SW	0	0	Covered	M. Kiss, Director.
Grenoble, Normal School	29.06	738.2	29.84	758.0	44.6	7.0	85	S	.....	.....	1	.....	10n	S	.....	0.177	4.50	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.61	752.0	29.83	757.6	48.9	9.4	93	WNW	.....	.....	3	.....	10	.....	.....	0.362	9.2	Covered	Mouillot, Director.
Le Mans, Normal School	29.45	748.0	29.76	755.9	47.3	8.5	94	NE	.....	.....	1	.....	8	.....	NE	0.049	1.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.80	731.4	29.72	755.0	43.7	6.5	67	S	.....	.....	4	.....	10	.....	SW	0.362	9.20	Raining	Baudry, Director.
Lorient, Naval Observatory	29.79	756.6	29.89	759.1	49.3	9.6	84	NNW	.....	.....	3	.....	.....	NW	N	0.016	0.4	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	28.60	726.5	29.66	753.3	43.5	6.4	85	NE	.....	.....	1	.....	10n	.....	W	1.039	26.4	Raining	M. Barbier, Director.
Nismes, Normal School	29.73	755.2	29.94	760.4	55.4	13	70	NW	.....	.....	1	.....	2	.....	NW	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.82	630.4	.....	.....	30.2	— 1.0	100	SW	.....	.....	10	.....	10	.....	.....	.....	.....	Snow & fog	Alluard, Director.
Rochefort, Naval Obs'y	29.81	757.1	29.84	757.9	50.9	10.5	94	W	.....	.....	1	.....	10	W	W	0.24	6.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.69	754.1	29.78	756.3	42.1	5.6	73	N	.....	.....	2	.....	5	W	N	0.551	14.0	Cloudy	Frere Lucard, Director.
Saint Malo (Port)	29.82	757.3	29.84	758.0	40.3	4.6	79	N	.....	.....	4	.....	8	N	N	0.141	3.57	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.56	750.8	29.72	755.0	40.6	4.8	89	N	.....	.....	1	.....	10	.....	N	0.126	3.2	Covered	L. Renou, Director.
Tarbes, Normal School	28.99	733.9	29.98	761.6	48.2	9	61	SW	.....	.....	2	.....	10	.....	.....	0.59	15.	Raining	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.45	747.9	29.77	756.2	51.4	10.8	80	SE	.....	.....	1	.....	2	.....	S	0.142	3.6	Slightly cl'dy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.7	29.94	760.4	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marches.
Lyons, Observatory	.....	.....	29.77	756.2	45.5	7.5	83	E	.....	.....	1	.....	10	.....	.....	0.24	0.6	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.95	633.6	30.26	768.6	35.2	1.8	72	NW	13.0	5.8	.....	.....	3	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	29.74	755.5	58.1	14.5	52	SW	.....	.....	6	.....	8	.....	.....	0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.44	747.8	.....	.....	39.4	4.1	93	N	.....	.....	3	.....	10	.....	N	0.138	3.5	.....	Marié Davy, Director
Perpignan	29.88	759.0	29.99	761.7	55.6	13.1	55	NW	13.0	5.8	.....	.....	10	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade,) H. P.	22.33	567.1	.....	.....	23.2	— 4.9	.....	NW	.....	.....	6-8	.....	10	.....	.....	0.539	13.7	Snowy	Gen'l de Tansouty.
Toulouse, Observatory	29.26	743.2	29.98	761.5	50.0	10.0	64	WSW	.....	.....	4	.....	9	.....	.....	0.322	8.2	.....	M. Mercadier Julier.
Tours	29.53	750.0	29.72	755.0	50.0	10.0	86	WNW	.....	.....	1	.....	8	.....	NW	0.244	6.2	.....	C. Marquet.
Versailles Observatory	.....	.....	29.72	755.0	41 0	5.0	.....	N	.....	.....	2	.....	10	.....	.....	0.213	5.40	Covered	Dr. A. Bérigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.60	777.1	30.62	777.7	28.9	— 1.7	84	NNW	8.1	3.6	.....	4cs	.....	W	.....	0	0	Fair	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published. at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,365 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-1.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.72	729.4	29.55	750.5	38.5	3.6	83	W	.....	.....	6	.....	9	W	.....	0.315	8.0	Raining	Prof. Dr. Hoh.
Berlin	29.26	743.3	29.44	747.8	35.6	2.0	84	SW	.....	.....	2	.....	10	.....	.....	0.150	3.8	.....	Prof. Arndt.
Breslau	28.95	735.3	29.47	748.6	41.7	5.4	81	W	.....	.....	3	.....	10	.....	.....	0.065	1.65	.....	Royal University Obs'y
Carlsruhe	29.30	744.1	29.61	752.1	41.4	5.2	97	SW	.....	.....	1	.....	10	SW	.....	2.181	55.4	Rain & snow	Albert Senz.
Cassel	28.95	735.3	29.55	750.5	35.6	2.0	79	NNW	.....	.....	6	.....	5	W	.....	0.099	2.53	.....	Dr. H. Möhl.
Crefeld	29.48	748.7	29.64	752.8	37.4	3.0	70	NW	.....	.....	3	.....	2	.....	.....	0.59	15.	.....	Director Lose.
Emden	.....	.....	.....	.....	32.7	0.4	95	NW	.....	.....	2	.....	10	.....	.....	0.130	3.3	.....	Prof. Prestel.
Frankfort on the Main	29.26	743.3	29.64	752.8	40.6	4.8	.....	NNW	.....	.....	1	.....	9	.....	.....	0.169	4.3	.....	Physical Society.
Friedrichshafen	28.24	717.3	29.68	753.9	46.0	7.8	68	W	.....	.....	8	.....	8	W	.....	0.370	9.4	Rain & snow	M. Wilhelm.
Hamburg	29.36	745.8	29.44	747.7	32.9	0.5	87	WSW	.....	.....	3	.....	9cs	.....	.....	0.201	5.1	Clear	Captain F. Hegemann
Kiel	29.41	747.1	29.43	747.5	32.5	0.3	91	NW	.....	.....	1	.....	10	.....	.....	0.253	6.43	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.31	744.4	29.39	746.6	31.1	— 0.5	86	W	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.37	746.0	30.9	— 0.6	.....	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.13	739.9	29.56	750.8	36.1	2.3	74	WNW	.....	.....	4	.....	6	WNW	.....	0.157	4.0	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.30	744.3	29.35	745.4	34.9	1.6	82	W	.....	.....	3	.....	10n	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	29.39	746.4	29.40	746.8	33.4	0.8	82	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.14	740.2	29.44	747.7	34.7	1.5	98	WNW	.....	.....	2	.....	10	.....	.....	0.157	4.0	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.09	738.9	29.65	753.0	43.7	6.5	82	NW	.....	.....	3	.....	10	WSW	.....	0.113	2.86	Rainy	Imp. University Observatory.
Stuttgart	28.65	727.8	29.60	751.9	42.8	6.0	70	W	.....	.....	1	.....	10	.....	.....	0.429	10.9	Raining	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.07	712.9	29.59	751.6	41.5	5.3	86	W	6.7	3	.....	.....	10	.....	W	0.217	5.5	Rainy	Dr. Van Bebber.
Wustrow, Naval School	29.39	746.5	29.41	747.1	30.0	— 1.1	100	SE	.....	.....	2	.....	10	.....	.....	0.161	4.1	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.63	752.6	30.02	762.6	60.3	15.7	.....	S	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

INDIAN SERIES

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.4	29.95	760.8	73.9	23.3	57	WNW	16.0	7.2	.....	.....	1	.....	.....	0	0	D. clouds	
Deesa	29.61	752.1	30.10	764.4	74.7	23.7	33	SE	.....	.....	.....	.....	5	WSW	.....	0	0	D. clouds	
Bombay	29.95	760.7	29.99	761.6	79.1	26.2	69	WNW	10.0	4.5	.....	.....	2	SW	.....	0	0	D. clouds	
Poona	27.98	710.8	29.99	761.8	79.4	26.3	.....	ESE	.....	.....	.....	.....	1	E	.....	0	0	Blue sky	
Lahore	29.31	744.5	30.09	764.3	59.1	15.1	48	Calm	0.5	0.2	.....	.....	9	.....	.....	0	0	Cloudy	
Belgaum	27.44	696.9	29.98	761.5	77.0	25.0	53	ESE	8.0	3.6	.....	.....	4	SSE	ESE	0	0	D. clouds	
Roorkee	29.15	740.4	30.09	764.3	61.6	16.4	60	Calm	1.3	0.6	.....	.....	10	.....	.....	0	0	Gloomy	
Agra	29.51	749.6	30.10	764.6	62.8	17.1	42	NW	.....	.....	.....	.....	4	.....	NW	0	0	.....	
Nagpur	28.99	736.4	30.06	763.5	70.8	21.6	44	Calm	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky	
Lucknow	29.68	753.9	30.07	763.8	66.4	19.1	37	N	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.77	756.1	30.09	764.4	61.8	16.6	68	Calm	0.4	0.2	.....	.....	2	.....	.....	0	0	D. clouds	
Patna	29.90	759.4	30.09	764.2	63.4	17.4	82	NW	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.99	710.9	30.07	763.8	63.8	17.7	52	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.90	759.3	29.98	761.4	69.0	20.6	63	NNE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	30.04	763.0	30.06	763.6	66.1	18.9	79	NW	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	.....	.....	.....	.....	68.8	20.4	58	NE	5.7	2.6	.....	.....	7	E	.....	0	0	D. clouds	
Chittagong	29.97	761.3	30.07	763.7	68.4	20.2	82	Calm	2.2	1.0	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.74	755.3	30.09	764.2	63.4	17.4	83	ENE	0.9	0.4	.....	.....	8	SW	SW	0	0	D. clouds	
Jubbulpore	28.67	728.3	30.09	764.3	64.6	18.1	43	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 666.3 meters; Nagpur, 1,026 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Udine	29.27	743.4	29.69	754.2	44.6	7.0	81	Calm	0	0	.....	.....	9	.....	.....	0.114	2.9	.....	Prof. Giovanni Clodig.
Padua	29.60	751.8	29.71	754.7	42.1	5.6	94	WNW	9.4	4.2	.....	.....	10	.....	.....	0.350	8.9	.....	Prof. Dott. Lorenzoni
Milan	29.20	741.7	29.74	755.3	38.7	3.7	95	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schieparelli.
Moncalieri	28.78	731.1	29.73	755.1	40.8	4.9	89	ENE	.....	.....	2	.....	4	E	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.76	705.2	29.74	755.3	45.7	7.6	61	SE	.....	.....	2	.....	6	WSW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.52	749.7	29.71	754.7	55.8	13.2	76	W	1.8	0.8	.....	.....	8	N	.....	0.016	0.4	.....	Prof. G. M. Garibaldi.
Florence	29.50	749.4	29.77	756.1	53.6	12.0	76	SW	.....	.....	6	.....	10	SW	.....	0.028	0.7	.....	Cav. F. Meucci
Leghorn	29.67	753.5	29.75	755.7	55.9	13.3	74	W	16.1	7.2	.....	.....	7	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.69	754.0	29.73	755.2	40.5	4.7	93	NW	10.5	4.7	.....	.....	10	SW	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.68	753.9	29.86	758.5	57.6	14.2	77	S	9.4	4.2	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.68	753.9	29.94	760.4	57.9	14.4	77	SW	8.1	3.6	.....	.....	6	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.76	756.0	29.96	760.9	60.6	15.9	63	W	.....	.....	4	.....	5	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.1	30.00	762.0	59.2	15.1	67	SW	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.74	755.3	29.99	761.8	62.2	16.8	47	WSW	18.1	8.1	.....	.....	10	WSW	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.95	760.6	30.02	762.5	59.7	15.4	52	ENE	1.3	0.6	.....	.....	8	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	746.9	29.96	761.0	57.0	13.9	84	ESE	5.6	2.5	.....	.....	6	.....	.....	0.496	12.6	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.18	766.6	30.20	767.1	42.6	5.9	62	NW	7.0	3.1	.....	.....	9ck	.....	W	0.05	1.3	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.13	765.3	30.34	770.6	39.5	4.2	68	WNW	10.7	4.8	.....	.....	10s	.....	W	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.69	754.1	29.76	755.9	49.9	9.9	54	SW	19.1	8.5	.....	0	0	.....	.....	0	0	Very clear.	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9.30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.10	637.5	30.27	768.8	44.6	7.0	62	W	.....	.....	1	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.47	621.7	30.12	765.1	56.1	13.4	83	S	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.11	587.0	30.25	768.3	46.9	8.3	66	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	51.3	10.7	78	WSW	.....	.....	1	1c	0	SW	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.06	763.4	30.07	763.7	70.7	21.5	95	N	.....	.....	1	1	1	SW	E	0.39	10.	Clear	M. M. Cházaro.
San Luis Potosi	24.23	614.8	30.23	767.8	51.0	10.6	31	ESE	.....	.....	.....	0	10	.....	ESE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.07	763.7	30.10	764.4	75.2	24.0	83	NNW	1.6	0.7	.....	.....	10sk	.....	.....	Inap	Inap.	Very cloudy	Prof. J. Rossell.
Zacatecas	22.53	572.5	.....	.....	54.5	12.5	69	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute	23.46	596.0	30.24	768.0	47.7	8.7	34	N	0.9	0.4	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.08	764.0	71.2	21.8	74	E	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.95	760.7	30.08	764.1	73	22.8	.....	Calm	.....	.....	0	7n	3n	.....	.....	0.461	11.7	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,558.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft. San Luis Potosi, 1893 m., or 6219.4 ft.; Zacatecas, 2,496 m., or 8,188.8 ft.; Puebla, Catholic Institute, 2201.9 m.; or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.70	754.3	29.70	754.3	37.8	3.2	.....	WNW	.....	.....	.....	.....	.....	.....	.....	0.571	14.5	.....	
Groningen	29.50	749.3	29.56	750.7	33.4	0.8	.....	NW	.....	.....	4	.....	.....	.....	.....	0.181	4.6	.....	
Helder	29.60	751.8	29.60	751.8	37.9	3.3	.....	WNW	.....	.....	5	.....	.....	.....	.....	0.134	3.4	.....	
Hellevoetsluis	29.65	753.0	29.65	753.0	37.2	2.9	76	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.60	751.9	29.65	753.1	37.4	3.0	98	WSW	.....	.....	2	.....	5	.....	.....	0.012	0.3	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, the as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.37	745.9	29.42	747.3	33.8	1.0	81	NW	4.3	1.9	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.52	749.7	29.56	750.7	23.0	— 5.0	64	E	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.26	743.3	29.41	747.1	31.1	— 0.5	98	NE	7	3	.....	.....	10	.....	.....	.....	.....	Snowing.....	
Tromsö	29.63	752.7	29.68	753.8	27.9	— 2.3	81	NE	20	9	.....	.....	10	.....	.....	0.126	3.2	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.05	763.2	30.24	768.1	60.1	15.6	93	W	7.4	3.3	.....	.....	8	.....	.....	0.177	4.5	.....	Dr. J. A. Sampaio.
Campo Major	29.37	746.0	30.41	772.4	53.6	12.0	83	SW	9.4	4.2	.....	.....	9	WNW	.....	0.161	4.1	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.31	769.8	30.39	772.0	65.3	18.5	70	SW	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	30.06	763.5	30.42	772.6	58.8	14.9	72	NW	8.7	3.9	.....	.....	8	W	.....	0.185	4.7	.....	The Staff.
Ponta Delgada, (Azores)	30.23	767.7	30.30	769.5	65.8	18.8	83	SW	5.6	2.5	.....	.....	5	.....	.....	0.087	2.2	.....	

NOTE.—The originals give the wind-velocity in kilometers per hour preceding the observations; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 a. m.

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	V. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids	.....	.....	30.05	763.2	78.4	25.8	.....	Var.	.....	.....	3	.....	1	.....	.....	3	S	Blue sky.....	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. T. d'Oliveria, Com'd't.
Quanza, Atlantic. St. Thomas Id., Gulf of Guinea, S. At.	.....	.....	29.86	758.5	83.3	28.5	.....	SSE	.....	.....	3	.....	4	.....	NW	2	SSE	D. clouds.....	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda	.....	.....	29.77	756.1	84.2	29	.....	WSW	.....	.....	2	.....	8	.....	ESE	0	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.24	768.0	57.6	14.2	.....	N	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky.....	M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	28.97	735.8	29.40	746.8	32.9	0.5	96	SSW	2	1	.....	.....	10n	.....	.....	.....	.....	Light rain...	Astronomical Obs
Wilna	28.97	735.8	29.40	746.7	30.4	— 0.9	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds....	Astronomical Obs.
Dorpat	28.99	736.4	29.24	742.8	23.5	— 4.7	90	WSW	2	1	.....	.....	10n;ks	.....	.....	.....	.....	Foggy	Prof. Dr. Weihrauch.
St. Petersburg	29.11	739.5	29.13	739.9	25.0	— 3.9	95	NW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.89	733.8	29.54	750.4	32.2	0.1	78	S	13	6	.....	.....	10ks;6s	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.72	754.9	29.79	756.7	41.5	5.3	83	SSW	9	4	.....	.....	[illegible]	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.01	762.3	30.03	762.8	43.5	6.4	86	SSE	9	4	.....	.....	10ks;n	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.85	732.8	29.42	747.2	27.9	— 2.3	92	S	9	4	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.71	754.7	29.93	760.1	32.9	0.5	70	SSW	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	MeteorologicalObs.
Archangel	29.24	742.8	29.26	743.3	19.8	— 6.8	92	E	4	2	.....	.....	10	.....	.....	.....	.....	Light clouds	Capt Sseliwerstow.
Tiflis	28.69	728.8	30.14	765.5	48.2	9.0	47	NNW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Physical Observatory
Astrakhan	30.13	765.2	30.04	763.1	39.2	4.0	90	NW	9	4	.....	.....	2c	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.18	741.2	29.67	753.6	28.6	— 1.9	81	NW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.29	744.0	29.57	751.1	26.8	— 2.9	87	SSW	2	1	.....	.....	4	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.89	733.8	29.57	759.2	28.4	— 2.0	98	SSE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.80	756.9	30.04	763.0	42.1	5.6	58	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	
Tashkend	28.45	722.7	30.16	766.1	54.7	12.6	44	N	4	2	.....	.....	2ks	.....	.....	.....	.....	.....	
Barnaul	29.67	753.5	30.23	767.9	17.2	— 8.2	62	SW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Teich, A. M.
Yeniseisk	30.00	761.9	30.31	769.9	12.0	—11.1	93	NE	7	3	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Peking, (China)	30.39	771.8	30.53	775.4	21.9	— 5.6	40	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness wtihout distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.92	760.0	30.03	762.7	60.1	15.6	40	W	6.7	3.00	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.08	764.1	30.14	765.6	55.4	13.0	66	NW	5.7	2.53	.....	3	2	W	.....	0.366	9.3	Cloudy.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.18	690.4	.....	.....	47.5	8.6	87	NW	17.0	7.59	.....	.....	2	.....	.....	0.079	2.0	.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.03	711.9	.....	.....	45.9	7.7	88	W	11.8	5.29	.....	0	10	.....	.....	0.004	0.1	Covered	The Staff.
Murcia, Met. Obs'y	30.10	764.4	30.24	768.2	66.4	19.4	57	NE	0.9	0.42	.....	3	4	SW	.....	0	0	Cloudy.....	Mayo Diaz, Director.
Santiago, Met. Obs'y.	29.36	745.8	30.26	768.7	53.8	12.1	82	NW	8.7	3.9	.....	.....	10	.....	.....	0.358	9.1	Covered.....	X. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.07	763.9	30.14	765.6	69.2	20.7	84	Calm	0	0	.....	4ck	5k	NE	ENE	0.020	0.5	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.90	759.7	29.96	761.1	80.6	27.0	84	NNE	4.9	2.2	.....	1	2	W	E	0.36	9.0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.30	769.7	30.41	772.3	58.3	14.6	88	NW	3.7	1.7	.....	0	10	.....	W	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.97	761.1	30.06	763.4	76.3	24.6	72	SE	0	0	.....	2s	2k	E	E	0.118	3.00	Clear.....	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.37	746.0	29.41	747.0	20.1	— 6.6	.....	NE	.....	.....	4	.....	10	.....	.....	0.197	5.0	.....	
Umea	29.38	746.3	29.43	747.6	20.5	— 6.4	90	N	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	29.39	746.5	29.44	747.8	20.5	— 6.4	79	N	.....	.....	2	.....	8	.....	.....	0.039	1.0	Snowing	
Stockholm	29.15	740.5	29.33	745 0	23.0	— 5.0	86	WNW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Wisby	29.23	742.5	29.29	744.0	31.6	— 0.2	81	NNW	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.20	741.8	29.28	743.7	20.8	— 6.2	93	WNW	7.8	3.5	.....	.....	9	.....	NNE	0.006	0.15	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.34	719.8	29.80	756.9	43.3	6.3	92	SSW	.....	.....	5	.....	10	.....	.....	0.598	15.2	Raining	The Observatory.
Zurich	28.07	713.0	29.74	755.3	45.0	7.2	72	W	.....	.....	2	.....	8	.....	.....	0.283	7.2	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —7.9 mm.; Thermometer, +4.9 cent.; Relative Humidity, +12 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.98	761.6	51.8	11.0	76	S	4	2.0	.....	.....	2	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.	.....	.....	29.95	760.8	61.7	16.5	.....	S	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Beirut, (Syria,) Lee Obs'y	29.96	761.0	30.08	764.0	64.4	18.0	48	N	.....	.....	2	.....	10cs	.....	.....	0	0	Overcast	Prof. C. V. A. Van Dyck.

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

CANADIAN SERIES.

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

Bathurst, N. B.	28.84	732.5	28.91	734.3	17.1	— 8.3	92	NE	7.7	3.4	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson
Brockville, Ontario	29.20	741.7	29.53	750.0	14	—10.0	.....	W	6	2.7	.....	.....	10n	.....	W	0.73	18.5	Light snow	W. R. Bigg.
*Chatham, N. B.	28.80	731.5	28.86	733.0	12	—11.1	90	NE	4	1.8	.....	5k	2ks	NE	NE	0.60	15.2	Fair	G. A. Blair.
Charlottetown, P. E. Island.	28.72	729.5	28.76	730.5	17	— 8.3	93	NE	8	3.6	.....	.....	5ks	.....	NE	0.025	0.64	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.16	740.6	29.37	746.0	11.6	—11.3	100	NW	.....	.....	5	.....	10n	.....	.....	0.40	10.2	Overcast	James Smith, M. A.
Dalhousie, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C.	30.24	768.1	30.29	769.4	28.0	— 2.2	100	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	28.92	734.6	28.94	735.1	24	— 4.4	91	Calm	0	0	.....	.....	10n	.....	Calm	0.13	3.3	Light snow	J. McWilliams.
Fredericton, N. B.	28.82	732.0	28.89	733.8	14.3	— 9.8	88	NE	2	0.9	.....	cs	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.71	754.6	30.67	779.0	—10	—23.3	96	NW	5	2.2	.....	5k	5n	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.78	731.0	29.97	761.2	4	—15.6	.....	W	.....	.....	4	.....	10n	.....	.....	0.60	15.2	Snowing	James Grant.
*Halifax, N. S.	28.44	722.4	28.58	725.9	24	— 4.4	97	N	6	2.7	.....	.....	10n	.....	.....	0.920	23.37	Light snow	F. Allison, M. A.
Hamilton, Ontario	29.57	751.1	29.96	761.0	19.5	— 6.9	80	SW	.....	.....	3	8ck	0	NW	.....	0.40	10.2	Clear?	Geo. Dickson, M. A.
Heart's Content, N. F.	28.80	731.5	28.82	732.0	32	0.0	100	SE	.....	.....	6	.....	10	.....	.....	0.19	4.8	Snowing	E. Weedon.
*Kingston, Ontario	29.19	741.4	29.55	750.6	14	—10.0	79	W	15	6.7	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S.	28.83	732.3	28.88	733.5	24.4	— 4.2	93	W	4	1.8	.....	3k	0	W	.....	0.10	2.5	Fair	C. H. Rigby.
*Montreal, Quebec	29.04	737.6	29.25	742.9	16	— 8.9	83	W	36	16.1	.....	.....	10s	.....	.....	0.05	1.3	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.93	760.2	29.97	761.2	9.9	—12.3	94	N	.....	.....	5	.....	10n	.....	.....	0.05	1.3	Cloudy	J. R. Nason.
*Parry Sound, Ontario	29.12	739.6	29.88	758.9	9	—12.8	89	NW	16	7.2	.....	.....	10n	.....	W	0.05	1.3	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	28.87	733.3	29.69	754.1	8.7	—12.9	77	NW	.....	.....	.....	0	8ks	.....	.....	.....	.....	Windy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.17	740.9	29.91	759.7	12	—11.1	80	W	13	5.8	.....	.....	10n	.....	W	0.02	0.5	Light snow	H. Morgan.
Port Hastings, N. S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.33	745.0	30.04	763.0	10	—12.2	86	W	.....	.....	.....	.....	10ks	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	28.65	727.7	28.97	735.8	29	— 1.7	78	N	.....	.....	1	.....	10n	.....	N	0.05	1.3	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.16	740.6	29.65	753 1	16	— 8.9	79	W	10	4.5	.....	.....	8s	.....	NW	0.09	2.3	Light snow	W. H. McIntyre.
St. Andrews, N. B.	28.75	730.2	28.80	731.5	16	— 8.9	85	N	.....	.....	3	0	2ks	.....	NE	0.07	1.8	Clear	Dr. Gove.
St. John, N. B.	28.64	727.4	28.80	731.5	17	— 8.3	100	NW	15	6.7	.....	0	0	.....	.....	0.02	0.5	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.17	740.9	29.94	760.5	17	— 8.3	88	N	20	8.9	.....	.....	10ks	.....	.....	0.15	3.8	Clear	K. Stewart.
Stayner, Ontario	29.04	737.6	29.88	758.9	16	— 8.9	93	NW	18	8.0	.....	.....	10n	.....	NW	0.38	9.7	Cloudy	R. J. Cole.
Stratford, Ontario	28.56	725.4	29.94	760.5	15.7	— 9.1	97	NW	20	8.9	.....	.....	10s	.....	.....	0	0	.....	C. J. MacGregor, M. A.
*Sydney, C. B.	28.81	731.8	28.85	732.8	4	—15.6	100	Calm	0	0	.....	2c	2ks	SE	SE	0.23	5.8	Fair	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.82	757.4	17	— 8.3	78	NW	35	15.6	.....	.....	10ks	.....	NW	0	0	Cloudy?	Magnetic Observatory.
Windsor, N. S.	28.52	724.4	28.62	726.9	20.5	— 6.4	93	NE	11	4.9	.....	0	8	.....	W	0.20	5.1	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	33.0	0.6	100	NE	.....	.....	.....	.....	n	.....	.....	.....	.....	Stormy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.17	740.9	29.40	746.7	15	— 9.4	74	NW	26	11.6	.....	5cs	2s	W	W	Inap.	Inap	Fair	
Alpena, Michigan	29.31	744.5	30.01	762.2	15	— 9.4	82	NW	16	7.2	.....	.....	10s	.....	Calm	0.04	1.0	Light snow.	
Atlanta, Georgia	29.18	741.2	30.47	773.9	9	—12.8	68	NW	14	6 3	.....	5c	5s	NW	Calm	0	0	Fair	
Atlantic City, New Jersey	29.65	753.1	29.66	753.4	7	—13.9	77	W	24	10.7	.....	5cs	0	NW	.....	0	0	Fair	
Augusta, Georgia	30.23	767.8	30.42	772.6	20	— 6.7	74	W	4	1.8	.....	5cs	Haze	W	.....	0	0	Fair	
Baltimore, Maryland	29.82	757 4	29.87	758.7	9	—12.8	67	W	20	8.9	.....	5ck	Haze	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.59	751.6	29.61	752.1	9	—12.8	78	NW	30	13.4	.....	5k	2s	NW	Calm	0	0	Fair	
Bismarck, Dakota	28.61	726.7	30.46	773.7	—26	—32.2	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.84	732.5	30.28	769.1	22	— 5.6	86	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.34	694.4	30.30	769.6	12	—11.1	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	28.96	735.6	29.12	739 6	15.5	— 9.2	48	NW	29	13.0	.....	10cs	Haze	NW	Calm	Inap.	Inap.	Cloudy	
Bracketville, Texas	29.14	740.1	30.24	768.1	31	— 0.6	89	E	7	3.1	.....	.....	10s	.....	E	0.03	0.8	Cloudy	
Breckenridge, Minnesota	29.48	748.8	30.66	778.8	—12	—24.4	100	NW	7	3.1	.....	.....	10n	.....	Calm	Inap	Inap.	Light snow.	
Brownsville, Texas	30.16	766.1	30.24	768.1	40	4.4	100	N	12	5.4	.....	.....	10n	.....	Calm	0.44	11.2	Light rain	
Buffalo, New York	29.12	739.6	29.87	758.7	15	— 9.4	82	SW	25	11.2	.....	.....	10n	.....	SW	0.40	10.2	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	37	2.8	Inap.	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.02	737.1	29.32	744.7	15	— 9.4	82	W	14	6.3	.....	.....	10n	.....	W	Inap.	Inap.	Light snow.	
Cairo, Illinois	30.27	768.8	30.74	780.8	— 4	—20.0	65	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.11	637.8	29.91	759.7	44	6.7	76	NW	8	3.6	.....	8cs	0	Calm	.....	0.94	23.9	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	49	9.4	24	W	.....	.....	1	5k	0	Calm	.....	0	0	Fair	
Camp o, California	27.47	697.7	30.04	763.0	32	0.0	79	Calm	0	0	.....	8k	0	Calm	.....	0	0	Cloudy	
Cape Hatteras, N. Carolin	30.09	764.3	30.10	764.5	15	— 9.4	56	NW	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.99	761.7	30.01	762.2	11	—11.7	20	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolin	30.15	765.8	30.17	766.3	18	— 7.8	53	NW	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.74	755.4	29.77	756.1	10	—12.2	58	NW	58	25.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.53	750.0	30.31	769.9	26	— 3.3	63	NE	13	5.8	.....	.....	10s	.....	NE	0	0	Clear	
Charleston, South Carolin	30.31	769.9	30.39	771.9	24	— 4.4	36	N	8	3.6	.....	5cs	0	W	.....	0	0	Threatening	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	4	—15.6	74	W	4	1.8	.....	0	0	.....	.....	0	0	Fair	
Chicago, Illinois	29.65	753.1	30.46	773.7	— 7	—21.7	59	W	7	3.1	.....	Haze	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.82	757.4	30.59	777.0	— 4	—20.0	65	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.44	747.8	30.26	768.6	— 3	—19.4	66	W	16	7.2	.....	0	5s	.....	W	0	0	Fair	
Coleman City, Texas	28.49	723.6	30.32	770.1	17	— 8.3	83	NE	4	1.8	.....	.....	10n	.....	NE	0.48	12.2	Sleeting	
Columbus, Ohio	29.48	748.8	30.45	773.4	— 8	—22.2	58	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corpus Christi, Texas	28.33	719.6	30.16	766.1	19	— 7.2	100	NE	8	3.6	.....	.....	10n	.....	NE	0.15	3.8	Cloudy	
Corsicana, Texas	29.97	761.2	30.49	774.4	22	— 5.6	100	NE	8	3.6	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Davenport, Iowa	29.84	757.9	30.60	777.2	—15	—26.1	71	W	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear	
Deadwood, Dakota	25.39	644 9	.....	.....	10	—12.2	79	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.67	753.6	30.56	776.2	14	—10.0	82	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Denver, Colorado	24.92	633.0	29.96	761.0	1	—17.2	42	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.62	752.3	30.66	778.8	—16	—26.7	85	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.46	748.3	30.20	767.1	7	—13.9	77	W	8	3.6	.....	.....	10s	.....	W	0	0	Clear	
Dodge City, Kansas	27.67	702.8	30.25	768.3	3	—16.1	73	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Dubuque, Iowa	29.72	754.9	30.55	776.0	—14	—25.6	45	NW	1	0.4	.....	0	0	.....	.....	0	0	Cloudy	
Duluth, Minnesota	29.66	753.4	30.44	773.2	— 2	—18.9	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Clear	
Eagle Pass, Texas	29.52	749.8	30.32	770.1	30	— 1.1	100	SE	5	2.2	.....	.....	10n	.....	Calm	0	0	Cloudy	
Eastport, Maine	28.75	730.2	28.82	732 0	18	— 7.8	84	N	22	9.8	.....	2c	5s	NW	N	0.04	1.0	Light rain	
Edinburg, Texas	.....	.....	.....	.....	39	3.9	91	N	.....	.....	6	.....	10n	.....	N	0.07	1.8	Fair	
El Paso, Texas	.....	.....	.....	.....	54	12.2	67	SE	2	0.9	.....	.....	10s	.....	SE	1.32	33.5	Light rain	
Erie, Pennsylvania	29.28	743.7	30.06	763.5	9	—12.8	100	W	18	8.0	.....	.....	10n	.....	Calm	0.18	4.6	Cloudy	
Escanaba, Michigan	29.49	749.0	30.21	767.3	8	—13.3	78	W	19	8.5	.....	.....	10s	.....	W	Inap.	Ina	Light snow.	
Florence, Arizona	28.51	724.1	30.11	764.8	50	10.0	100	N	.....	.....	1	.....	Fog	.....	Calm	0	0	Cloudy	
Fort Craig, New Mexico	25.41	645.4	29.47	748.5	37	2.8	90	S	3	1.3	.....	.....	10s	.....	Calm	0.91	23.1	Foggy	
Fort Davis, Texas	25.18	639.6	30.14	765.5	34	1.1	100	NE	1	0.4	.....	.....	10n	.....	NE	0.12	3.0	Cloudy	
Fort Gibson, Indian Ter	30.00	762 0	30.62	777.7	5	—15.0	75	N	4	1.8	.....	5k	2s	N	N	0.37	9.4	Light rain	
Fort Griffin, Texas	29.09	738.9	30.51	774.9	17	— 8.3	83	NE	4	1.8	.....	.....	10n	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	28.01	711.4	30.09	764.3	23	— 5.0	86	E	8	3.6	.....	.....	10n	.....	E	0.06	1.5	Sleeting	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.10	2.5	Snowing	
Fort Sill, Indian Territory	29.20	741.7	30.44	773.2	12	—11.1	80	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.62	726.9	.....	.....	—30	—34.4	100	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.50	723.9	30.21	767.3	24	— 4.4	74	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Foggy	
Galveston, Texas	30.34	770.6	30.39	771.9	32	0.0	69	NE	20	8.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Graham, Texas	29.30	744 2	30.48	774.2	16	— 8.9	83	NE	6	2.7	.....	.....	10s	.....	Calm	0.18	4.6	Sleeting	
Grand Haven, Michigan	29.56	750.8	30.27	768.8	14	—10.0	64	SW	16	7.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Indianapolis, Indiana	29.63	752.6	30.54	775.7	— 9	—22.8	56	W	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Indianola, Texas	30.33	770 4	30.36	771.1	33	0.6	89	NE	29	13.0	.....	.....	10s	.....	NE	0	0	Threatening	
Jacksboro, Texas	29.20	741.7	30.46	773.7	15	— 9.4	82	N	10	4.5	.....	.....	10s	.....	NE	0.22	5.6	Cloudy	
Jacksonville, Florida	30.34	770.6	30.36	771.1	31	— 0.6	28	N	8	3.6	.....	10k	0	NW	.....	0	0	Cloudy	
Keokuk, Iowa	29.90	759.4	30.63	778.0	—12	—24.4	75	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.14	765.5	30.18	766.6	61	16.1	71	NE	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Kittyhawk North Carolina	30.04	763.0	30.07	763.8	12	—11.1	42	NW	27	12.1	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.46	748.3	30.63	778.0	0	—17.8	70	NE	1	0.4	.....	Haze	2s	Calm	NW	0	0	Fair	
La Crosse, Wisconsin	29.68	753.9	30.54	775.7	— 8	—22.2	58	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	41	5.0	91	Calm	0	0	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
Laredo, Texas	29.77	756.1	30.13	765.3	33	0.6	100	Calm	0	0	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Leavenworth, Kansas	29.68	753.9	30.70	779.8	—14	—25.6	72	NW	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Los Angeles, California	29.68	753.9	30.02	762.5	46.0	7.8	84	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.95	760.7	30.60	777.2	— 3	—19.4	66	SW	6	2.7	.....	0	Sm'e	.....	SW	0	0	Smoky	
Lynchburg, Virginia	29.42	747.2	30.17	766.3	8	—13.3	55	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.34	745.2	30.49	774.4	— 9	—22.8	56	W	11	4.9	.....	0	5s	.....	SW	0	0	Fair	
Marquette, Michigan	29.42	747.2	30.18	766.6	12	—11.1	80	NW	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Mason, Texas	28.59	726.2	30.51	774.9	20	— 6.7	70	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	30.30	769.8	30.66	778.7	10	—12.2	56	NE	7	3.1	.....	0	5s	.....	NE	0	0	Fair	
Milwaukee, Wisconsin	29.58	751.3	30.43	772.9	— 9	—22.8	79	W	11	4.9	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.40	772.1	30.44	773.2	26	— 3.3	63	N	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Montgomery, Alabama	30.25	768.3	30.52	775.2	19	— 7.2	84	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.16	740.7	30.33	770.4	9	—12.8	100	S	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	22.51	571.7	28 87	785.3	— 8	—22.2	100	NW	93	40.4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	30.03	762.8	30.65	778.5	1	—17.2	71	NW	2	0.9	.....	5cs	0	.....	.....	0	0	Fair	
New Haven, Connecticut	29.25	742.9	29.37	746 0	20	— 6.7	70	NW	14	6.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
New London, Connecticut	29.24	742.7	29.29	744.0	19	— 7.2	54	NW	23	10.3	.....	0	5s	.....	NW	0	0	Fair	
New Orleans, Louisiana	30.33	770.4	30.39	771.9	33	0.6	42	N	11	4.9	.....	.....	10ks	.....	NW	Inap.	Inap.	Cloudy	
Newport, Rhode Island	29 16	740.7	29.21	741.9	21	— 6.7	56	W	25	11.2	.....	.....	10s	.....	.....	0	0	Cloudy	
New York, New York	29.34	745.2	29.53	750.0	13	—10.6	62	NW	13	5.8	.....	2cs	5s	Calm	E	0	0	Fair	
Norfolk, Virginia	30.00	762.0	30.06	763.5	10	—12 2	58	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.31	693.7	30.27	768.8	— 9	—22.8	68	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.30	769.6	30.34	770.6	21.2	— 6.0	86	S	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	29.37	746.0	30.68	779.3	—12	—24.4	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.40	746.7	29.78	756.4	20	— 6.7	85	W	24	10.7	.....	.....	10n	.....	.....	0.07	1.8	Light snow.	
Pembina, Dakota	29.68	753.9	30.65	778.5	—10	—23.3	100	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	29.64	752.8	29.69	754.1	11	—11.7	60	W	26	11.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Phœnix, Arizona	28.83	732.3	30.67	779.0	48	8.9	93	Calm	.....	.....	0	0	2ks	.....	W	0.05	1.3	Fair	
Pike's Peak, Colorado	17.48	442.2	29.69	754.1	1	—17.2	Inap.	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	23.98	609.1	29.75	755.6	20	— 6.7	85	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.37	746.0	30.29	769.4	— 2	—18.9	67	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	29.36	745.7	30.08	764.0	10	—12.2	79	W	17	7.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Portland, Maine	28.93	734.8	28.98	736.1	24	— 4.4	74	W	4	1.8	.....	10k	0	Calm	.....	0	0	Cloudy	
Portland, Oregon	30.32	770.1	30.44	773.2	24.5	— 4.2	81	N	5	2.2	.....	0	0	.....	.....	0.08	2.0	Clear	
Prescott, Arizona	24.69	627.1	30.05	763.3	27	— 2.8	76	Calm	0	0	.....	8k	0	Calm	.....	0.01	0.3	Fair	
Pilot Point, Texas	29.06	738.1	29.94	760.5	20	— 6.7	85	N	1	0.4	.....	.....	10n	.....	N	0.01	0.3	Light snow.	
Punta Rassa, Florida	30.23	767.8	30.25	768.3	46	7.8	54	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.66	753.4	30.02	762.5	44	6.7	84	N	2	0.9	.....	0	5ks	.....	Calm	Inap.	Inap.	Fair	
Rio Grande City, Texas	30.22	767.6	30.45	773.4	36	2.2	100	N	12	5.4	.....	.....	10n	.....	Calm	0.33	8.4	Light rain.	
Rochester, New York	29.05	737.9	29.69	754.1	12	—11.1	100	W	24	10.7	.....	.....	10n	.....	Calm	1.50	38.1	Heavy snow	
Roseburg, Oregon	29.73	755.1	30.33	770.4	34.0	1.1	95	Calm	0	0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Sacramento, California	29.89	759.2	29.98	761.5	41.4	5.2	88	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Louis, Missouri	30.00	762.0	30.08	779.3	— 8	—22.2	79	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.37	771.4	30.39	771.9	29	— 1.7	45	N	12	5.4	.....	0	9s	.....	N	0	0	Cloudy	
St. Paul, Minnesota	29.47	748.5	30.44	773.2	—11	—23.9	75	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	20.5	— 6.4	78	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.56	750.8	30.19	766.8	27	— 2.8	100	NE	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
San Diego, California	30.00	762.0	30.08	764.0	51.4	10.8	96	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.54	750.3	30.30	769.6	2	—16.7	44	SW	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	29.49	749.0	29.52	749.8	12	—11.1	80	W	48	21.5	.....	0	2s	.....	W	0	0	Fair	
San Francisco, California	29.94	760.5	30.01	762.2	46.7	8.2	73	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.11	587.0	29.65	753.1	28	— 2.2	100	N	1	0.4	.....	.....	10n	.....	Calm	0.14	3.6	Light snow	
Savannah, Georgia	30.31	769.9	30.42	772.6	25	— 3.9	38	NW	8	3.6	.....	5cs	0	W	.....	0	0	Fair	
Shreveport, Louisiana	30.28	769.1	30.53	775.4	19	— 7.2	100	NE	6	2.7	.....	.....	10n	.....	Calm	0.20	5.1	Heavy snow	
Silver City, New Mexico	24.18	614.2	30.42	772.6	40	4.4	91	SW	8	3.6	.....	.....	10n	.....	Calm	0.74	18.8	Light rain	
Smithville, North Carolina	30.27	768.8	30.30	769.6	18	— 7.8	53	NW	9	4.0	.....	5cs	0	W	.....	0	0	Fair	
Springfield, Massachusetts	29.19	741.4	29.33	745.0	15	— 9.4	48	NW	16	7.2	.....	10c	0	NW	.....	Inap.	Inap.	Cloudy	
Stockton, Texas	27.06	687.3	30.06	763.5	27	— 2.8	100	E	8	3.6	.....	.....	10n	.....	Calm	0.42	10.7	Sleeting	
Thatcher's Island, Mass	29.03	737.3	29.08	738.6	19	— 7.2	69	NW	26	11.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Toledo, Ohio,	29.53	750.0	30.29	769.4	2	—16.7	72	SW	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	48	8.9	63	Calm	0	0	.....	2k	0	W	.....	1.01	25.7	Fair	
Tybee Island, Georgia	30.37	771.4	30.41	772.4	26	— 3.3	63	NW	20	8.9	.....	5cs	2ks	NW	NW	0	0	Cloudy	
Umatilla, Oregon	30.12	765.0	30.70	779.8	— 1.0	—18.3	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	29	— 1.7	89	SE	.....	.....	2	.....	10s	.....	S	0.03	0.8	Cloudy	
Uvalde, Texas	29.39	746.5	30.28	769.1	28	— 2.2	67	N	6	2.7	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
Vicksburg, Mississippi	30.30	769.6	30.59	777.0	19	— 7.2	85	NE	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Virginia City, Montana	24.22	615.2	29.70	754.4	12	—11.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.66	753.4	30.04	763.0	41	5.0	89	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.83	757.7	29.96	761.0	6	—14.4	76	W	29	13.0	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	39	3.9	91	SE	.....	.....	1	0	5ks	.....	W	0.03	0.8	Fair	
Wilmington, N. Carolina	30.19	766.8	30.28	769.1	17	— 8.3	67	NW	13	5.8	.....	0*	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	18	— 7.8	68	NE	12	5.4	.....	0	2s	.....	Calm	0	0	Fair	
Wood's Holl, Mass	29.13	739.9	29.17	740.9	20	— 6.7	70	NW	40	17.9	.....	.....	8s	.....	NW	0	0	Cloudy	
Yankton, Dakota	29.24	742.7	30.84	783.3	—28	—33.3	45	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.86	758.4	30.03	762.8	45	7.2	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.83	732.3	30.45	773.4	—10	—23.3	68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	30.11	764.8	30.13	765.3	73	22.8	76	Calm	0	0	.....	0	4ks	.....	NE	0	0	Clearing	J. B. Gordon.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	73	22.8	81	Calm	0	0	.....	0	2s	.....	NE	0	0	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I	29.96	761.0	30.04	763.0	78	25.6	.....	N	13.8	6.2	.....	.....	.....	.....	.....	.....	.....	Partly cl'dy.	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	79	26.1	87	E	.....	.....	2	5k	7ks	E	.....	0.500	12.70	½ Cloudy	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	30.59	777.0	.....	.....	—13.5	—25.3	73	NW	13	5.8	.....	3ck	1s	NW	NW	0	0	Fair	G. O. Gellich.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,533 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,423 ft., or 433.4 m.; Fort Davis, 5,103 (?) ft., or 1,555.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.8 ?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,852 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.03	762.7	43	6.1	48	8.9	85	SW	2	0.9	.....	.....	10	.....	Calm	0	0	.....	.....	Threatening	
Navy Yard, Pensacola, Fla.	30.42	772.6	29	— 1.7	29	— 1.7	78	N	7	3.1	.....	.....	10	.....	N	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.05	737.9	46	7.8	16	— 8.9	83	WNW	10	4.5	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital Yokohama, Japan *	29.83‡	757.7‡	.....	.....	52	11.1	52	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear	
Alaska. Panama	30.07	763.8	78	25.6	75	23.9	86	NW	.....	.....	2	.....	2	.....	SE	0	0	.....	.....	Hazy	
Alliance. Smyrna, Turkey	30.04‡	763.0‡	.....	.....	63	17.2	57	SW	.....	.....	0–1	.....	2	.....	S;W	.....	.....	.....	.....	Misty	
Ashuelot. N. 13° 43′, E. 100° 29′	30.09	764.3	77	25.0	76	24.4	73	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Canonicus, New Orleans, La.	30.35	770.9	32	0.0	32	0.0	66	NE	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Fair	
Colorado. New York, N. Y.	29.58	751.3	14	—10.0	10	—12.2	??	WSW	4	1.8	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Constitution, Havre, France	29.69‡	754.1‡	.....	.....	42	5.6	83	N	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Despatch, Constantinople, Turkey	30.00‡	762.0‡	.....	.....	52	11.1	73	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va.	30.16	766.1	61	16.1	10	—12.2	79	NW	24	10.7	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Gettysburg, Villafranca, France	29.74‡	755.4‡	.....	.....	61	16.1	55	SW	.....	.....	4–5	.....	10	.....	.....	0	0	Smooth	.....	D. clouds	
Hartford, Montevideo, Uruguay	30.23	767.8	66	18.9	63	17.2	62	ESE	9.0	4.0	.....	.....	8	.....	.....	0	0	Smooth	.....	Cloudy	
Lackawana, Off Realejo, Nicaragua	29.81‡	757.2‡	.....	.....	76	24.4	82	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.	30.04†	763.0†	.....	.....	8	—13.3	78	W	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Yokohama, Japan *	29.83‡	757.7‡	.....	.....	53	11.7	43	SW	.....	.....	4–5	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.45†	773.4†	.....	.....	26	3.3	.....	N	16	7.2	.....	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Onward, Callao, Peru	30.04†	763.0†	.....	.....	66	18.9	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.49	774.4	30	— 1.1	19	— 7.2	84	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	8	—13.3	78	WSW	.....	.....	6	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Pensacola, Punta Arenas, Costa Rica	29.88‡	758.9‡	.....	.....	75	23.9	100	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	.....	Clear	
Powhatan, Norfolk, Va.	29.98	761.5	13	—10.6	13	—10.6	100	W	22.6	10.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Quinnebaug, Norfolk, Va.	30.07‡	763.8‡	.....	.....	10	—12.2	.....	NW	.....	.....	3–5	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Richmond, New York, N. Y.	29.99‡	761.7‡	.....	.....	15	— 9.4	100	NW	.....	.....	4–6	.....	0	.....	.....	0	0	.....	.....	Clear	
Rio Bravo, Brownsville, Texas	30.10	764.5	47	8.3	47	8.3	100	NW	.....	.....	4	.....	10	.....	Calm	.....	.....	.....	.....	Light rain	
Santee, Annapolis, Md.	29.86‡	758.4‡	.....	.....	8	—13.3	.....	NW	.....	.....	5	.....	0	.....	.....	0	0	.....	.....	Clear	
St. Louis, League Island, Pa.	29.63	752.6	47	8.3	9	—12.8	.....	WNW	18	8.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Supply, N. 50° 06′, W. 3° 16′	29.99‡	761.7‡	.....	.....	46	78.	77	NW	.....	.....	3	.....	2	.....	NW	.....	.....	Long	NW	Clear	
Trenton Villafranca, France *	29.71‡	754.6‡	.....	.....	59	15.0	70	SW	.....	.....	3–4	.....	2	.....	Calm	0	0	.....	.....	Fair	
Tuscarora. San Joze, Gautamala.	29.99‡	761.7‡	.....	.....	78	25.6	86	N	.....	.....	1	.....	Sks	.....	.....	0	0	Smooth	.....	Overcast	
Vandalia, N. 30° 53′, W. 69° 44′	29.95‡	760.7‡	.....	.....	56	13.3	81	WNW	.....	.....	8	.....	10	.....	W	.....	.....	Rough	W	Cloudy	
Wabash. Boston, Mass.	29.13‡	739.9‡	.....	.....	12	—11.1	....	NW	21	9.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 7° 28', W. 79° 54'		29.94*	760.5*	80	26.7	91	N			4		6		N		Small	NNE	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.93	760 2				N			1–2		0						Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J.A.Thompson, 2d Off'r
S. S. Gaelic, N. 26° 40', E. 123° 11'		30.27†	768.8†	60	15.6	??	NE			7		k		SW	0	Very high.	NE	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionaly by the scale 0 to 9.

UNITED STATES MARINE SERIES.—Continued.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 43° 53', W. 57° 9'		28.85*	732.8*	35	1.7	80	SW			3		8		W	Blank	Heavy	WNW	Cloudy	Captain Sargent.
S. S. Ohio, N. 51° 20', W. 20° 28'		29.79†	756.7†	52	11.1	93	S			5		10		S	0	Heavy	SW	Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 46° 29' W. 51° 53'		28.68*	728.5*	42	5.6		ESE			4		2cs		ESE		Mod'ate Confused	Var.	D. clouds	Capt. W. Richardson.
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

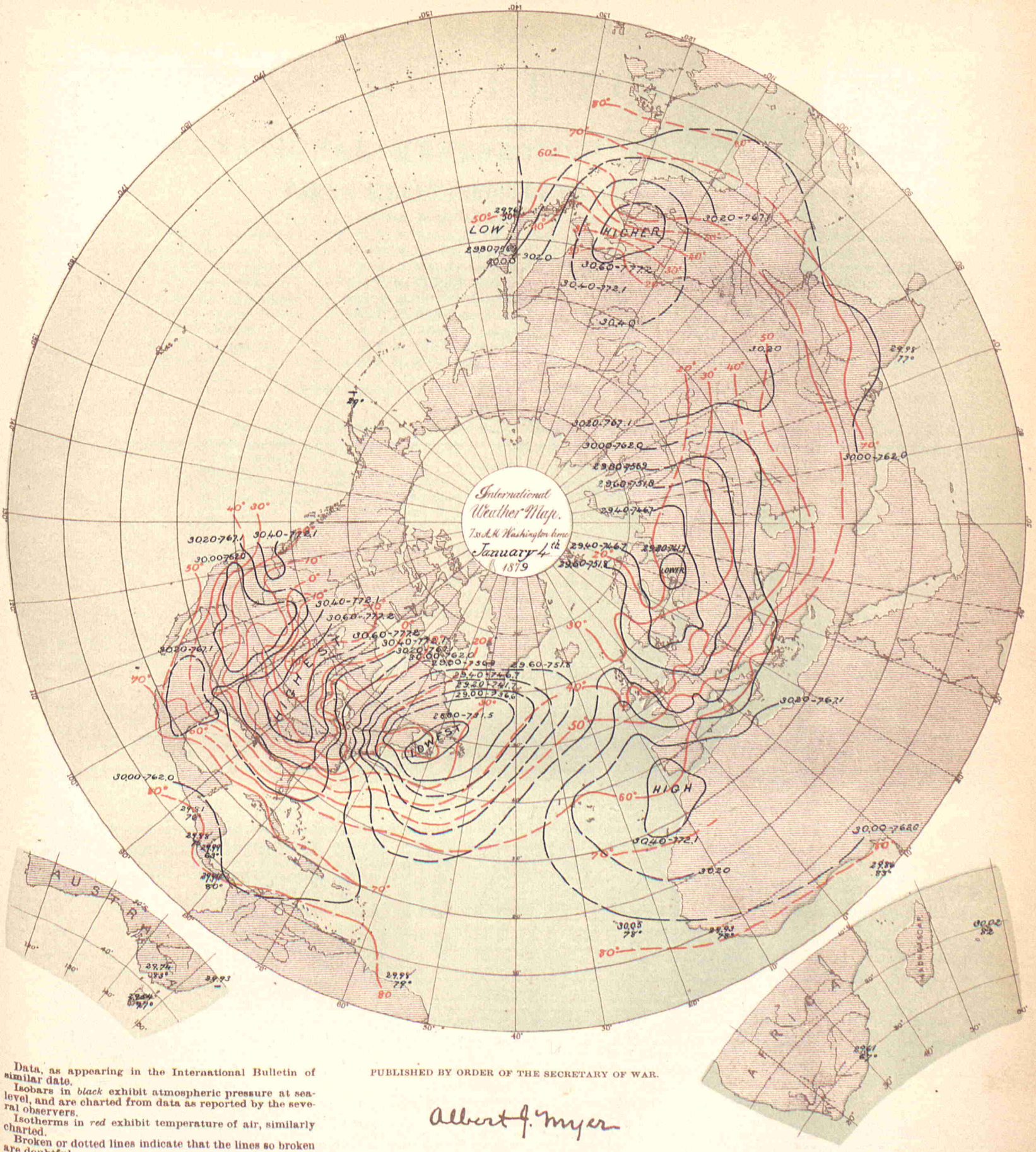
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 5, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.45	773.4	63.0	17.2	78	NE	.....	.....	2	.....	3	.....	.....	0	0	Pretty fair.,	
Nemours	.....	.....	30.38	771.7	61.5	16.4	73	ESE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.25	768 4	58.3	14.6	84	W	.....	.....	3	.....	2	.....	.....	0	0	Fair.....	Touriliere.
La Calle	.....	.....	30.23	767.7	59.0	15.0	77	WNW	.....	.....	4	.....	8	.....	.....	0.091	2.3	Very cloudy	Foufrede.
Tunis	.....	.....	30.18	766.5	59.9	15.5	68	NW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Jacques.
Sfax	.....	.....	30.30	769.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gar.
Saida	.....	.....	30.26	768.6	55.8	13.2	29	W	.....	.....	3	.....	1	.....	.....	0	0	Fair.....	Herbin.
Tebessa	.....	.....	30.16	766.1	53.1	11.7	31	W	.....	.....	4	.....	3	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	30.19	766.9	51.4	10.8	63	NNW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.23	767.9	59.4	15.2	45	S	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Bertrand.
Biskra	.....	.....	30.27	768.8	65.1	18.4	44	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.37	746.0	29.94	760.5	36.9	2.7	72	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.09	738.8	29.89	759.1	32.4	0.2	92	SSW	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	Dr. Wierzbiski
Eperies	28.92	734.5	29.83	757.7	32.7	0.4	73	NW	.....	.....	2	.....	10s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.67	728.3	29.98	761.4	33.3	0.7	80	S	.....	.....	3	.....	7	.....	.....	0.031	0.8	.....	Andreas Rospini.
Hermannstadt	28.27	718.0	29.71	754.7	41.4	5.2	86	NW	.....	.....	2	.....	10	.....	.....	0.488	12.40	.....	Prof. A. Gottschling.
Kremsmünster	28.58	725.9	29.97	761.3	32.2	0.1	98	NW	.....	.....	4	.....	10	.....	.....	0.098	2.5	.....	Prof. C. Wagner.
Lemberg	28.76	730.4	29.78	756.4	32.4	0.2	92	NW	.....	.....	1	.....	8	.....	.....	Inap.	Inap.	.....	Dr. T. Stanecki.
Pola	29.73	755.2	29.85	758.2	43.7	6.5	67	E	.....	.....	3	.....	10	.....	.....	0.012	0.3	.....	I.R.Hydrographic Office.
Szathmar	29.33	745.0	29.82	757.3	34.5	1.4	89	W	.....	.....	4	.....	10	.....	.....	0.016	0.4	Heavy fog...	Julius Csics, S. J.
Szegedin	29.54	750.2	29.83	757.6	34.9	1.6	82	NE	.....	.....	2	.....	10	.....	.....	0.433	11.00	.....	Karl Stancel.
Trieste	29.85	758.1	29.87	758.7	46.0	7.8	61	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	P. Busin.
Vienna	29.21	742.0	29.96	760.9	33.8	1.0	79	W	.....	.....	3	.....	8	.....	.....	0.079	2.0	.....	I.R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, m. p. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected or instru'tal error and temperature. Inches.	Barometer. Corrected or instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.89	759.2	29.99	761.7	35.5	1.9	.....	NW	16	7.2	.....	.....	3	.....	.....	0.120	3.05	Blue sky.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.13	765.3	34.1	1.2	.....	SSW	1	0.4	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.09	764.3	37.6	3.1	.....	NW	7	3.1	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.05	763.3	35.0	1.7	.....	WNW	6.0	2.7	.....	.....	.....	.....	.....	.....	.....	Blue sky.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	82	27.8	.....	NE	.....	.....	3	.....	3	.....	.....	0	0	.....	Pvt. J. Surgener, A. H. [C.
Cambridge, Observatory	.....	.....	30.12	765.0	36.0	2.2	.....	W	.....	.....	1	.....	1	.....	.....	Blank	Blank	D. clouds.....	H. Todd.
Cardington	.....	.....	30.12	765.0	33.6	0.9	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E.	30.01	762.2	30.14	765.5	32.2	0.1	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R.E.
Dartmoor	28.85	725.2	30.08	764.0	33.0	0.6	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	Alexander Watt.
Donaghadee	30.07	763.8	30.12	765.0	37	2.8	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	J. Mac Gowan.
Dover	30.10	764.5	30.12	765.0	36	2.2	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	D. clouds.....	J. Costello.
Falmouth, Observatory	29.80	756.9	30.04	763.0	43.6	6.4	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Misty..	The Staff.
Fort Napier, (Natal)	27.77	705.4	30.08	764.0	64.2	17.9	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.69	754.1	29.92	760.0	76	24.4	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	Overcast	
Galway, Queen's College	.....	.....	30.05	763.3	34	1.1	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	
Gibraltar, (Mediterranean)	30.29	769.4	30.35	770.9	58.7	14.8	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Glasgow, Observatory	29.84	757.9	30.05	763.3	36.4	2.4	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky.....	Capt. Wm. Allen, A.H.C.
Great Yarmouth	30.05	763.3	30.06	763.5	32	0.0	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Greenwich, Royal Obs'y	29.96	761.0	30.15	765.8	34.7	1.5	.....	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Foggy	G. T. Watson.
Guernsey	29.80	756.9	30.00	762.0	42.5	5.8	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Misty.....	The Staff, or G. B. Airy
Helston	29.92	760.0	30.05	763.3	56	13.3	.....	SE	.....	.....	1	.....	8k	.....	.....	.....	.....	Hazy	Dr. S. E. Hoskins, F.R.S.
Holyhead	30.04	763.0	30.10	764.5	40	4.4	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	Showery.....	M. P. Moyle.
Jersey	29.84	757.9	30.14	765.5	41.3	5.2	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds.....	John Tilston.
Kew, Observatory	30.11	764.8	30.15	765.8	36.0	2.2	.....	WSW	6	2.7	.....	.....	1	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kingstown	30.10	764.5	30.13	765.3	33	0.6	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	Misty.....	The Staff.
Leicester, Museum	29.84	757.9	30.11	764.8	33.5	0.8	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	George Mitchell.
Malta, (Mediterranean)	30.06	763.5	30.14	765.5	60	15.6	.....	NW	.....	.....	1	.....	4k	.....	.....	.....	.....	Misty.....	Wm. J. Harrison, F.G.S.
Nairn	29.93	760.2	30.02	762.5	37	2.8	.....	NW	.....	.....	3	.....	8	.....	.....	0.05	1.3	Blue sky.....	Sergt. Beckett, A. H. C.
Nassau, (Bahamas)	.....	.....	30.13	765.3	68.8	20.4	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	¾ Covered....	W. D. Penny.
Nottingham, Observatory	29.89	759.2	30.09	764.3	31.1	— 0.8	.....	W	.....	.....	1	.....	10k	.....	WNW	0	0	D. clouds.....	C. S. Duncombe.
Oscott, St. Mary's College	29.57	751.1	30.11	764.8	35.4	1.9	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast....	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y	.....	.....	30.13	765.3	34	1.1	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Misty.....	Rev. Stephen Whitty.
Plymouth	30.00	762.0	30.08	764.0	49.8	4.3	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Rocke's Point	30.00	762.0	30.04	763.0	44	6.7	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Covered	W. Kennedy.
Sandwick Manse, (Orkneys)	.....	.....	30.02	762.5	38.1	3.4	.....	N	20	8.9	.....	.....	8	.....	.....	.....	.....	.....	John C. Walker.
Scutari, Cemetery, (Turkey)	.....	.....	29.78	756.4	61.4	16.3	.....	S	.....	.....	2	.....	7	.....	.....	.....	.....	Showery	Rev. C. Clouston, LL. D.
Sheffield	29.78	756.4	30.07	763.8	36.4	2.4	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Silloth Rectory	30.03	762.8	30.06	763.5	37.5	3.1	89	SW	.....	.....	3	.....	0	.....	.....	0	0	D. clouds....	W. F. Cooper.
Stonyhurst, Observatory	29.67	753.6	30.07	763.8	33.4	0.8	.....	SW	.....	.....	1	.....	3	.....	.....	0	0	Blue sky.....	F. H. Redford.
Stratfield Turgis	29.91	759.7	30.14	765.5	37.5	3.1	.....	W	.....	.....	0–1	.....	0	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Thurso	29.94	760.5	30.01	762.2	40	4.4	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Blue sky.....	Rev. C. H. Gratton, F.M.S
Truro, Royal Institution	.....	.....	30.04	763.0	45	7.2	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Showery....	John Trotter.
Valencia, Observatory	29.95	760.7	29.97	761.2	43.2	6.2	.....	E	18	8.0	.....	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	30.06	763.5	68.0	20.0	89	Calm	.....	.....	0	.....	10k	.....	.....	0	0	Raining	The Staff.
Leith, Restalrig Park	.....	.....	30.05	763 3	37.9	3.3	.....	NW	.....	.....	2	.....	10s	.....	.....	0	0	Cloudy.....	Francis Abbott, F.R.A.S.
Mauritius, Observatory	29.84	757.9	30.03	762.8	81.9	27.7	68	E	18.0	8.0	.....	2	6	E	ENE	0.10	2.5	Squally.....	Andrew Gibb.
Melbourne, Observatory	30.10	764.5	30.19	766.8	57.0	13.9	69	SSW	7	3.1	.....	.....	0	.....	.....	0	0	Very fine..	C. Meldrum.
Monach L't-house, (Hebrides	.....	.....	30.13	765.3	39	3.9	.....	NE	.....	.....	4	10?	5?	E	.....	0.01	2.5	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series.

Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Observer.
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.
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Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.23	666.2	29.95	760.7	61.2	16.2	84	NE	.....	.....	1	.....	1s	.....	.....	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.78	756.3	29.82	757.5	24.8	— 4.0	89	NNW	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	29.84	757.8	29.85	758.3	32.4	0.2	94	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	29.74	755.4	29.91	759.7	30.6	— 0.8	96	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower cloud; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.69	754.0	30.24	768 0	38.5	3.6	90	W	.....	.....	1	.....	10	.....	.....	0.031	0.8	Covered	Collignon, Director.
Amiens, Normal School	30.02	762.6	30.14	765.6	36.3	2.4	93	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	30.11	764.9	30.19	766.9	45.1	7.3	49	NNW	.....	.....	3	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.65	753.0	30.24	768 1	37.2	2.9	85	W	.....	.....	1	.....	5	.....	NW	0.181	4.6	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.92	760.0	30.22	767.6	37.9	3.3	69	WNW	.....	.....	1	.....	2	.....	NW	0.049	1.25	Slightly cl'dy	Frere Eugene Marie, Director.
Besançon, Normal School	29.26	743.3	30.19	766.9	38.3	3.5	90	S	.....	.....	6	.....	2	.....	SW	0.51	13.	Slightly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	29.40	746.8	30.28	769.1	38.7	3.7	70	S	.....	.....	1	.....	10k	W	W	0.425	10.8	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director
Brest, Naval Observatory	29.87	758.6	30.11	764.7	42.1	5.6	87	ESE	.....	.....	3	.....	10	.....	ESE	0.049	1.25	Raining	M.de Rermaur, Director.
Caen, Normal School	29.85	758.3	30.29	769.3	45.3	7.4	83	W	.....	.....	1	.....	5	W	W	0.047	1.2	Cloudy	September, Director.
Chartres, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Lair, Director.
Châlons-sur-Marne, N. Sch'l	29.58	751.2	30.17	766.2	34.9	1.6	85	WSW	.....	.....	1	.....	10	.....	W	0	0	Covered	M. Vergier, Director.
Clermont-Fd., Puy de D. Obs	29.87	758.8	30.21	767.2	38.8	3.8	70	NW	.....	.....	2	5	NW	NW	0	0	Cloudy	T. Leloup, Director.
Commercy, Normal School	28.86	733.0	30.26	768.6	42.3	5.7	46	W	.....	.....	1	10	.....	NW	0.161	4.1	Covered	Alluard, Director.
Commune de Gréasque*	29.26	743.3	30.18	766.6	35.1	1.7	74	NW	.....	.....	1	.....	2km	.....	NW	0.150	3.8	Slightly cl'dy	Dr. Cou[illegible] Director.
Grenoble, Normal School	28.78	731.0	30.16	766.0	41.0	5.0	56	NW	.....	.....	6	.....	2	.....	NW	0	0	¼ covered	M. [illegible], Director.
La Roche-sur-Yon N. School	29.47	748.6	30.27	768.8	41.0	5	59	WNW	.....	.....	3	.....	8k	N	.....	0.528	13.40	Very cloudy	M. Ablard, Director.
Le Mans, Normal School	29.98	761.4	30.20	767.0	38.8	3.8	93	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Mouillot, Director.
Lons-Le-Saulnier, N.School	29.91	759.7	30.23	767.9	37.0	2.8	93	WSW	.....	.....	1	.....	10	.....	.....	0.04	1.	Covered	Poirrier, Director.
Lorient, Naval Observatory	29.30	744.1	30.25	768.4	38.7	3.7	87	W	.....	.....	4	.....	5	.....	W	0.567	14.40	Cloudy	Baudry, Director.
Mâcon, Normal School	29.91	759.8	30.02	762.4	42.4	5.8	97	SSE	.....	.....	6	.....	.....	.....	SE	0.768	19.5	.....	Lt. F. Carré, Director.
Mirecourt, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[illegible]. Galzin, Director.
Nismes, Normal School	29.17	740.8	30.26	768.5	34.7	1.5	78	NE	.....	.....	1	.....	10k	.....	W	1.079	27.4	Snowing	M. Barbier, Director.
Privas, Normal School	30.09	764.2	30.30	769.5	45.7	7.6	44	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Royer, Director.
Puy de Dome (Summit) Obs.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Rochefort, Naval Obs'y	25.19	639.7	.....	.....	25.2	— 3.8	100	WNW	.....	.....	3	.....	.....	.....	.....	0.425	10.8	Foggy	Alluard, Director.
Rouen, Normal School	30.18	766.6	30.21	767.4	42.1	5.6	85	S	.....	.....	1	10	S	S	0.43	11.	Raining	Lt. Decante, Director.
Saint Malo (Port)	30.10	764.4	30.18	766.6	40.6	4.8	64	NW	.....	.....	1	2	.....	W	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Maur, (near Paris)	30.11	764.9	30.13	765.2	37.2	2.9	84	S	.....	.....	3	10	S	S	0.095	2.42	Raining	Lt. Hercouet, Director.
Tarbes, Normal School	30.04	763.1	30.21	767.3	41.0	5.0	67	W	.....	.....	1	.....	NW	NW	0.059	1.5	.....	E. Reaol, Director.
Villefranche-sur-Saone, N.S.	29.21	741.9	30.30	769.6	50.0	10	62	SSW	.....	.....	4	.....	2	SW	W	0	0	Slightly cl'dy	T. Huguet, Director.
SUB-SERIES.	29.56	750.7	30.30	769.6	40.1	4.5	67	NNW	.....	.....	3	.....	5	.....	N	0	0	Cloudy	M. Gausserand, Director
Fort de France, Martinique	29.93	760.3	29.96	761.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.28	769.0	40.5	4.7	62	NW	.....	.....	1	.....	4	.....	.....	0.083	2.1	Cloudy?	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cave.
Nice	24.95	633.6	30.26	768.6	35.2	1.8	69	WNW	18.6	8 3	.....	.....	3	.....	W	0.358	9.1	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	.....	.....	29.93	760.3	58.6	14.8	30	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Marié Davy, Director
Perpignan	29.93	760.1	.....	.....	40.6	4.8	73	SW	.....	.....	2	.....	7	.....	W	0.004	0.1	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	30.13	765.3	30.24	768.0	50.4	10.2	64	NW	33.6	15.0	.....	.....	0	.....	.....	0	0	.....	M. Baylac
Pic du Midi, (Plantade,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	Gen'l de Tansouty.
Toulouse, Observatory	22.56	573.0	.....	.....	23.5	— 4.7	.....	NNW	.....	.....	1	.....	10	.....	.....	0.358	9.1	Cloudy	M. Mercadier Julier.
Tours	29.60	751.8	30.33	770.3	41.2	5.1	92	NW	.....	.....	1	.....	8	.....	.....	0.240	6.1	.....	C. Marquet.
Versailles Observatory	30.02	762.5	30.22	767.5	38.8	3.8	90	NNW	.....	.....	1	.....	10	.....	W	0.126	3.2	.....	Dr. A. Berenny, Director.
Zi-Ka-Wei, (near Shanghai)	.....	.....	30.20	767.0	38.8	3.8	.....	WNW	.....	.....	.....	.....	8	.....	.....	0	0	Fair	Marc Dechevrens, S. J.
.....	30.48	774.1	30.50	774.7	31.1	— 0.5	85	SE	3.8	1.7	.....	10ck	.....	WNW	.....	0	0	Covered	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.2	29.94	760.5	34.2	1.2	85	W	.....	.....	5	.....	9	W	.....	0.031	0.8	Snowing.....	Prof. Dr. Hoh.
Berlin	29.70	754.4	29.88	758.9	34.7	1.5	81	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.33	744.9	29.85	758.3	34.5	1.4	66	NW	.....	.....	4	.....	4	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.66	753.3	30.10	764.6	38.3	3.5	75	SW	.....	.....	4	.....	10	SW	.....	0.008	0.2	.....	Albert Senz.
Cassel	29.39	746.6	30.00	762.0	36.9	2.7	76	NW	.....	.....	2	.....	8	W	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.82	757.3	29.98	761.4	35.8	2.1	93	NW	.....	.....	3	.....	10	.....	.....	0.08	2.	Rain-shower	Director Lose.
Emden	.....	.....	.....	.....	35.8	2.1	93	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.68	753.8	30.05	763.3	37.4	3.0	.....	WSW	.....	.....	2	.....	10	.....	.....	0.189	4.8	.....	Physical Society.
Friedrichshafen	28.66	727.9	30.15	765.9	35.8	2.1	77	W	.....	.....	7	.....	9	W	.....	0.035	0.9	Light snow..	M. Wilhelm.
Hamburg	29.79	756.7	29.87	758.6	34.9	1.6	82	WSW	.....	.....	3	.....	10cs	.....	.....	0.024	0.6	Raining.....	Captain F. Hegemann
Kiel	29.84	758.0	29.86	758.5	34.7	1.5	93	NNW	.....	.....	2	.....	10	.....	.....	0.057	1.44	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.57	751.0	29.65	753.2	29.3	— 1.5	87	SE	.....	.....	3	.....	4	.....	.....	0.177	4.5	Snowing.....	Prof. E Luther.
Köslin	.....	.....	29.71	754.5	30.0	— 1.1	.....	Calm	.....	.....	0	.....	4	.....	.....	0.378	9.6	.....	H. Müller.
Leipsic, Observatory	29.51	749.6	29.95	760.7	34.7	1.5	71	W	.....	.....	3	.....	7	WNW	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.56	750.7	29.60	751.9	30.6	— 0.8	66	WNW	.....	.....	5	.....	9s	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	29.70	754.4	29.72	754.8	28.8	— 1.8	84	WNW	.....	.....	2	.....	4	.....	.....	0.177	4.5	.....	A. Lothes.
Posen	29.53	750.1	29.84	757.8	31.5	— 0.3	98	WNW	.....	.....	5	.....	10	.....	.....	0.012	0.3	Snowing.....	Dr. Magener.
Strassburg (in Alsace)	29.61	772.1	30.19	766.8	34.2	1.2	91	NW	.....	.....	3	.....	10	W	.....	0.441	11.21	Snowing.....	Imp. University Observatory.
Stuttgart	29.10	739.1	30.08	764.0	36.0	2.2	68	W	.....	.....	1	.....	6	W	.....	0.075	1.9	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.48	723.3	30.06	763.4	31.6	— 0.2	92	NW	11	5	.....	.....	10	.....	.....	0.244	6.2	.....	Dr. Van Bebber.
Wustrow, Naval School	29.79	756.7	29.82	757.3	32.7	0.4	90	NE	.....	.....	2	.....	10cs	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.47	748.6	29.86	758.5	63.9	17.7	.....	SW	.....	.....	3.5	.....	.....	.....	.....	.....	.....	½ Clear	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.91	759.6	29.96	761.0.9	74.1	23.4	56	WNW	.....	.....	.....	.....	1	WNW	.....	0	0	D. clouds.. ..	
Deesa	29.58	751.4	30.07	763.7	74.5	23.6	31	NW	.....	.....	.....	.....	6	W	.....	0	0	D. clouds.....	
Bombay	29.94	760.5	29.98	761.5	78.2	25.7	74	NNW	16.0	7.2	.....	.....	2	WSW	.....	0	0	D. clouds.....	
Poona	27.96	710.1	29.96	761.1	79.6	26.4	.....	ESE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.29	743.9	30.07	763.8	57.1	13.9	44	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.43	696.8	29.97	761.3	76.9	24.9	53	Calm	0	0	.....	.....	5	.....	.....	0	0	D. clouds.....	
Roorkee	29.12	739.7	30.06	763.4	62.8	17.1	62	SE	1.5	0.6	.....	.....	3	.....	.....	0	0	D. clouds.....	
Agra	29.47	748.4	30.06	763.4	63.8	17.7	43	E	.....	.....	.....	.....	7	.. ..	E	0	0	.....	
Nagpur	28.96	735.6	30.02	762.4	77.6	25.3	26	Calm	1.6	0.7	.....	.....	2	.....	.....	0	0	Blue sky.....	
Lucknow	29.68	754.0	30.07	763.8	68.4	20.2	38	NNW	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.74	755.5	30.07	763.8	62.1	16.7	69	Calm	0.7	0.3	.....	.....	5	W	.....	0	0	D. clouds.....	
Patna	29.87	758.8	30.06	763.6	65.0	18.3	78	Calm	0.2	0.1	.....	.....	2	.....	.....	0	0	.....	
Hazaribagh	27.97	710.4	30.05	763 3	63.6	17.6	55	NW	2.5	1.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.94	760.4	30.02	762.5	71.2	21.8	56	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	30.01	762.2	30.03	762.8	66.3	19.1	77	NW	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	71.6	22.0	62	S	5.0	2.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.94	760.4	30.03	762.8	69.6	20.9	80	Calm	2.6	1.2	.....	.....	0	.....	.....	0	0	Dust-haze...	
Sibsagar	29.68	753.8	30.03	762.7	65.3	18.5	78	ENE	0.7	0.3	.....	.....	10	W	W	0	0	Overcast.....	
Jubbulpore	28.68	728.4	30.10	764.5	63.0	17.2	60	Calm	1.8	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,952.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.45	748.0	29.87	758.8	45.5	7.5	76	SW	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.77	756.1	29.88	759.0	45.1	7.3	84	S	1.3	0.6	.....	.....	6	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.37	746.0	29.91	759.7	49.1	9.5	33	N	.....	.....	6	.....	7	.....	.....	0	0	.....	Prof. Schieparelli.
Moncalieri	29.03	737.3	29.97	761.3	47.3	8.5	30	NNW	.....	.....	8	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.01	711.5	29.99	761.7	43.3	12.2	25	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.72	755.0	29.92	759.9	54.0	6.3	14	N	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.61	752.0	29.87	758.7	53.2	11.8	25	N	5.6	2.5	4	.....	2	NW	.....	0.087	2.2	.....	Cav. F. Meucci
Leghorn	29.76	755.8	29.84	758.0	55.4	13.0	28	WNW	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.83	757.7	29.88	759.0	41.7	5.4	89	W	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.63	752.7	29.82	757.3	54.9	12.7	75	W	1.8	0.8	.....	.....	3	.....	.....	0.236	6.0	.....	Prof. P. S. Ferrari.
Lecce	29.52	749.7	29.77	756.2	56.3	13.5	77	WSW	11.2	5.0	.....	.....	3	W	.....	0.020	0.5	.....	Prof. C. De Giorgi.
Cagliari	29.83	757.6	30.02	762.5	55.9	13.3	33	NW	.....	.....	6	.....	1	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.99	736.3	29.89	759.2	52.9	11.6	71	SW	4.9	2.2	.....	.....	8	.....	.....	0.957	24.3	.....	Prof. D. Conti.
Palermo	29.72	754.9	29.98	761.4	59.0	15.0	43	WSW	20.6	9.2	.....	.....	1	W	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.2	30.00	762.1	60.8	16.0	43	WSW	6.3	2.8	.....	.....	5	WSW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.29	743.9	29.84	758.0	51.8	11.0	78	NE	6	0	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.31	769.9	30.33	770.4	31.6	— 0.2	74	N	1.7	0.8	.....	.....	8ck;cs	SW	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.15	765.8	30.35	770.9	37.8	3.2	76	N	2.4	1.1	.....	.....	10s;ck	.....	.....	0.028	0.71	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.09	764.3	30.17	766.3	31.5	— 0.3	57	N	4.9	2.2	.....	0	0	.....	.....	0	0	Very clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.9	30.37	771.4	41.9	5.5	60	SW	.....	.....	1	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.52	622.8	30.20	767.0	53.1	11.7	76	NNW	.....	.....	3	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.7	30.20	767.1	51.8	11.0	71	Calm	0	0	.....	0	6k	.....	.....	0	0	½ clouded	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	44.6	7.0	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.06	763.5	30.07	763.8	70.3	21.3	91	N	.....	.....	3	0	10	.....	N	0	0	Threatening	M. M. Cházaro.
San Luis Potosi	24.26	616.3	30.23	767.9	49.0	9.4	13	SE	.....	.....	.....	0	0	.....	.....	0	0	Hazy.	G. Barroeta, M. D.
Vera-Cruz	30.09	764.3	30.12	765.0	71.6	22.0	74	N	17.6	7.9	.....	.....	10sk	.....	.....	0	0	Covered	Prof. J. Rossell.
Zacatecas	22.58	573.4	.....	.....	53.6	12	59	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.43	595.5	30.22	767.5	45.7	7.6	33	ENE	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.43	722.1	30.11	764.8	69.3	20.7	63	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, D. E.
San Juan E. Michapam	29.95	760.8	30.08	764.1	72	22.2	.....	N	.....	.....	1	7n	3n	NW	NW	0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.10	764.5	30.10	764.5	39.2	4.0	.....	W	.....	.....	.....	.....	.....	.....	.....	0.008	0.2	.....	
Groningen	29.90	759.5	29.96	760.9	36.1	2.3	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.99	761.7	29.99	761.7	40.1	4.5	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.059	1.5	.....	
Hellevoetsluis	30.05	763.3	30.05	763.3	38.8	3.8	90	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.98	761.6	30.03	762.8	38.3	3.5	95	NW	.....	.....	2	.....	5	.....	.....	0.185	4.7	Cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.75	755.6	29.80	757.0	33.4	0.8	88	SSW	1.1	0.5	.....	.....	0	.....	.....	0	0	.....	.....
Brönö	29.84	757.9	29.88	758.9	21.2	— 6.0	69	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	.....
Christiania	29.70	754.4	29.86	758.4	19.0	— 7.2	72	Calm	0	0	.....	.....	2	.....	.....	0.016	0.4	Light fog	.....
Tromsö	29.89	759.1	29.93	760.2	23.4	— 4.8	76	N	4	2	.....	10	.....	.....	.....	0.079	2.0	.....	.....

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.17	766.2	30.36	771.1	61.3	16.3	94	W	4.3	1.9	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.39	746.4	30.41	772.5	56.3	13.5	69	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.37	771.3	30.45	773.5	67.1	19.5	62	SW	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	30.09	764.2	30.44	773.3	58.1	14.5	80	S	4.9	2.2	.....	.....	6	SW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.36	771.1	30.43	772.9	64.4	18.0	84	SSW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Lima. Capt. da Silva Costa, Porto Praya, Cape Verd Ids	.....	.....	30.06	763.4	77.7	25.4	.....	Var.	.....	.....	5	.....	1	.....	.....	3	ESE	Blue sky	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Quanza, [lantic. St. Thomas Id., Gulf of Guinea, S. At.	.....	.....	29.93	760.3	78.8	26.0	.....	WSW	.....	.....	1	.....	10	.....	NW	2	SW	Drizzling	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda	.....	.....	29.77	756.2	85.1	29.5	.....	W	.....	.....	3	.....	4	.....	ESE	0	.....	Blue sky	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.26	768.6	58.1	14.5	.....	NE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.30	744.1	29.74	755.3	30.0	— 1.1	90	W	18	8	.....	.....	10n	.....	.....	.....	.....	Sleeting	Astronomical Obs
Wilna	29.11	739.5	29.56	750.7	24.8	— 4.0	88	NW	7	3	.....	.....	5	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.19	741.4	29.45	747.9	19.8	— 6.8	89	W	4	2	.....	.....	10n;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.37	746.0	29.39	746.4	18.7	— 7.4	89	SW	4	2	.....	.....	10n	.....	.....	.....	.....	Light fog	Central Physical Obs.
Kieff	28.95	735.4	29.61	752.0	35.1	1.7	91	W	7	3	.....	.....	10ks;	n;cs]	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.63	752.5	29.70	754.3	44.8	7.1	73	SW	9	4	.....	.....	6n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.82	757.3	29.84	757.8	52.9	11.6	88	S	9	4	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	28.92	734.6	29.49	749.1	26.6	— 3.0	98	S	9	4	.....	.....	10s	.....	.....	.....	.....	Snowing	Meteorological Obs.
Lugan	29.53	750.0	29.74	755.3	42.3	5.7	86	SSE	22	10	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.19	741.4	29.21	741.9	19.0	— 7.2	93	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.73	729.8	30.19	766.9	43.3	6.3	60	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.23	767.8	30.15	765.7	32.5	0.3	87	SE	7	3	.....	.....	8s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.31	744.5	29.80	757.0	28.6	— 1.9	92	S	31	14	.....	.....	10	.....	.....	.....	.....	Light snow	Cand. Fatjanow.
Kasan	29.47	748.5	29.75	755.6	25.3	— 3.7	98	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.00	736.5	30.02	762.4	20.5	— 6.4	87	WSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.97	761.2	30.21	767.3	39.2	4.0	67	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.63	727.3	30.39	771.9	45.7	7.6	59	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.84	758.0	30.42	772.6	15.8	— 9.3	95	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.89	759.3	30.21	767.3	11.7	—11.3	91	E	9	4	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.14	765.6	30.28	769.2	27.7	— 2.4	55	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.81	757.1	29.89	759.3	—25.6	—32.0	.....	Calm	0	0	.....	.....	1c	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.11	764.8	30.22	767.5	53.4	11.9	70	SSW	2.1	0.92	.....	.....	1ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.22	767.5	30.27	768.9	59.2	15.1	59	NW	4.1	1.84	.....	3	2	N	.....	0.134	3.4	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.35	694.6	.....	.....	43.9	6.6	85	SW	5.8	2.61	.....	.....	.....	.....	.....	0	0	.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.12	714.1	.....	.....	48.2	9.0	72	SW	4.7	2.11	.....	5	0	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.19	766.9	30.35	770.8	60.8	16.0	61	NW	2.2	1.00	.....	5	4	W	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.41	746.9	30.31	769.8	52.0	11.1	95	SW	11.9	5.3	.....	.....	10	.....	.....	0.016	0.4	Drizzling	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.03	762.7	30.10	764.4	66.2	19.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.9	29.97	761.2	80.6	27.0	73	NE	0	0	.....	0	1	.....	.....	0	0	Cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.30	769.6	30.40	772.2	57.9	14.4	83	N	6.3	2.8	.....	0	10	.....	SSW	0	0	.....	Capt. C. Pulazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	74.8	23.8	92	SE	0	0	.....	1s	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch't Eng'a

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.58	751.3	29.62	752.3	18.7	— 7.4	.....	NE	.....	.....	6	.....	10	.....	.....	0.118	3.0	.....	
Umea	29.64	752.9	29.69	754.2	20.1	— 6.6	73	N	.....	.....	4	.....	6	.....	.....	0	0	.....	
Hernosand	29.66	753.4	29.71	754.7	24.3	— 4.3	77	N	.....	.....	6	.....	10	.....	.....	0	0	.....	
Stockholm	29.46	748.2	29.63	752.7	20.5	— 6.4	82	NW	.....	.....	4	.....	8	.....	.....	0.004	0.1	.....	
Wisby	29.54	750.3	29.60	751.8	28.0	— 2.2	83	NNW	.....	.....	7	.....	10	.....	.....	0.012	0.3	.....	
Sub-Series.																			
Upsala	29.56	750.9	29.64	752.8	20.7	— 6.3	89	NNW	13.7	6.1	.....	.....	10	.....	NNE	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.77	730.8	30.24	768.2	39.4	4.1	55	SSW	.....	.....	4	.....	6	.....	.....	0.224	5.7	Cloudy.....	The Observatory.
Zurich	28.50	723.8	30.22	767.5	34.7	1.5	72	W	.....	.....	5	.....	8	.....	.....	0.020	0.5	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.1 mm.; Thermometer, +2.7 cent.; Relative Humidity, —25 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.82	757.4	59.7	15.4	61	SW	19	8.5	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.87	758.8	60.3	15.7	.....	SW	.....	.....	2	.....	5	.....	.....	0.51	13.	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.07	763.8	30.19	766.8	67.8	19.9	60	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.55	750.6	29.88	758.9	11	—11.7	.....	Calm	0	0	.....	.....	8s	.....	NW	0.75	19.1	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.06	738.1	29.12	739.6	27	— 2.8	84	W	9	4.0	.....	8ck	2ks	NW	NW	0.04	1.0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island.	28.97	735.8	29.02	737.1	28	— 2.2	92	NW	9	4.0	.....	0	8ks	.....	NW	0.100	2.54	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.80	756.9	14.9	— 9.5	97	NW	.....	.....	2	.....	10s	.....	.....	0.10	2.5	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.20	767.1	30.25	768.3	37.1	2.8	100	N	.....	.....	.....	.....	10n	.....	.....	0.54	13.7	Overcast	W. H. Bevis.
*Father Point, Quebec	29.32	744.7	29.34	745.2	29	— 1.7	89	NW	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.19	741.4	29.26	743 2	27.0	— 2.8	76	NW	18.0	8.0	.....	10cs	0	.....	.....	0	0	Overcast.....	Prof. Harrison.
*Fort Garry Manitoba	29.71	754.6	30.71	780.0	— 2.4	—31.3	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	28.86	733.0	30.06	763.5	15	— 9.4	.....	SW	.....	.....	1	.....	10n	.....	.....	0.30	7.6	Overcast.....	James Grant.
*Halifax, N. S	29.00	736.6	29.13	739.9	26	— 3.3	98	W	17	7.6	.....	.....	10n	.....	.....	0.280	7.11	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.68	753.9	30.08	764.0	12.7	—10.7	87	SW	.....	.....	2	6ck	0	NW	.....	0	0	Fair.....	Geo. Dickson, M. A.
Heart's Content, N. F	28.72	729.5	28.75	730.2	32	0.0	79	SE	.....	.....	1	.....	10	.....	.....	0.13	3.3	Overcast.....	E. Weedon.
*Kingston, Ontario	29.54	750.3	29.91	759.7	13	—10.6	80	NW	5	2.2	.....	10cs	0	Calm	.....	0.39	9.9	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	28.86	733.0	28.90	734.3	33.5	0.8	95	SW	6	2.7	.....	6ck	0	SW	.....	0.10	2.5	Cloudy.....	C. H. Rigby.
*Montreal, Quebec	29.52	749.8	29.74	755.4	18	— 7.8	76	W	21	9.4	.....	.....	10s	.....	.....	0.01	0.3	Cloudy.....	C. H. McLeod, C. E.
Moose Factory, Ontario	30.14	765.5	30.18	766.6	— 0.5	—18.1	91	NW	.....	.....	4	.....	10n	.....	.....	0.05	1.3	Cloudy.....	J. R. Nason.
*Parry Sound, Ontario	29.30	744.2	30.07	763.8	7	—13.9	73	N	10	4.5	.....	2cs	2ks	N	N	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.32	744.7	30.07	763.8	12	—11.1	92	SW	9	4.0	.....	.....	10n	.....	SW	0	0	Threatening	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.42	747.2	30.12	765.0	12	—11.1	90	W	.....	.....	.....	.....	10n	.....	W	0.02	0.5	Cloudy.....	M. Payne.
*Quebec, Quebec	29.21	741.9	29.55	750.6	19	— 7.2	77	W	.....	.....	6	5k	5n	W	W	0.02	0.5	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.50	749 3	29.99	761.7	9	—12.8	87	NW	8	3.6	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	29.30	744 2	29.35	745.5	22	— 5.6	76	NW	.....	.....	3	0	0	.....	.....	0	0	Clear.	Dr. Gove.
St. John, N. B	29.08	738.6	29.24	742.7	26	— 3.3	75	N	17	7.6	.....	0	6k	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.30	744.2	30.07	763.8	19	— 7.2	96	N	14	6.3	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.68	728.5	30.06	763.5	14.0	—10.0	95	NW	3	1.3	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M. A
*Sydney, C. B	28.80	731.5	28.84	732.5	31	— 0.6	89	W	12	5.4	.....	8c	2n	N	NW	0.03	0.8	Fair.....	T. C. Hill.
*Toronto, Ontario	29.58	751.3	29.99	761.7	19	— 7.2	94	NW	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.57	751.1	29.67	753.6	31.0	— 0.6	89	W	15	6.7	.....	.....	10k	.....	.....	0.30	7.6	Overcast.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	34.0	1.1	90	NE	.....	.....	.....	.....	10	.....	.....	0.15	3.8	Overcast.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From —	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.56	750.8	29.80	756.0	20	— 6.7	70	NW	14	6.3	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Alpena, Michigan	29.44	747.8	30.14	765.5	12	—11.1	80	NW	8	3.6	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Atlanta, Georgia	29.05	737.9	30.30	769.6	20	— 6.7	56	NW	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	11	—11.7	80	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.09	764.3	30.29	769.4	28	— 2.2	65	NW	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Baltimore, Maryland	30.07	763.8	30.12	765.0	8	—13.3	66	W	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	13	—10.6	62	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.60	726.4	30.46	773.7	—28	—33.3	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.94	735.1	30.38	771.6	28	— 5.0	73	N	.....	.....	1	.....	10s	.....	N	0	0	Cloudy	
Boise City, Idaho	27.53	699.2	30.49	774.4	17	— 8.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.49	749.0	29.65	753.1	19	— 7.2	62	W	12	5.4	.....	1cs	Sm'e	Calm	Calm	0	0	Clear	
Brackettville, Texas	29.27	743.2	30.37	771.4	31	— 0.6	89	E	1	0.4	.....	10ck	0	Calm	.....	0	0	Cloudy	
Breckenridge, Minnesota	29.52	749.8	30.69	779.5	— 8	—22.2	100	NW	7	3.1	.....	0	8s	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	30.33	770.4	30.41	772.4	35	1.7	90	N	8	3.6	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Buffalo, New York	29.27	743.4	30.03	762.8	11	—11.7	100	SW	18	8.0	.....	.....	10n	.....	SW	1.06	26.9	Light snow	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	32	E	.....	.....	1	2c	0	SE	.....	0	0	Clear	
Burlington, Vermont	29.45	748.0	29.76	755.9	21	— 6.1	71	NW	7	3.1	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Cairo, Illinois	30.16	766.1	30.60	777.2	8	—13.3	78	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.29	642.4	30.09	764.3	40	4.4	56	NE	12	5.4	1	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	31	— 0.6	69	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Campo, California	27.51	698.7	30.08	764.0	48	8.9	77	E	1	0.4	.....	8k	0	SW	.....	0.03	0.8	Cloudy	
Cape Hatteras, N. Carolina	30.15	765 8	30.16	766.1	22	— 5.6	72	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.11	764.8	30.13	765.3	22	— 5.6	45	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	23	— 5.0	86	NW	20	8.9	.....	5k	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.02	762.5	30.06	763.5	12	—11.1	61	NW	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.66	753.4	30.44	773.2	27	— 2.8	64	NW	7	3.1	.....	.....	10ks	.....	NW	0	0	Cloudy	
Charleston, South Carolina	30.21	767.3	30.29	769.4	32	0.0	79	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	19	— 7.2	54	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.58	751.3	30.38	771.6	— 7	—21.7	59	W	11	4.9	.....	2cs	0	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.74	755.4	30.49	774.4	— 3	—19.4	66	SW	3	1.3	.....	0	Sm'e	.....	SW	0	0	Smoky	
Cleveland, Ohio	29.45	748.0	30.26	768.6	2	—16.7	72	SW	11	4.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Coleman City, Texas	28.66	728.0	30.54	775.7	15	— 9.4	82	N	6	2.7	.....	0	5s	.....	N	0.02	0.5	Fair	
Columbus, Ohio	29.41	747.0	30.38	771.6	— 4	—20.0	64	SW	8	3.6	.....	.....	10n	.....	SW	Inap.	Inap.	Light snow	
Concho, Texas	28.50	723.9	30.35	770.9	18	— 7.8	84	N	8	3.6	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Corsicana, Texas	30.06	763.5	30.59	777.0	15	— 9.4	82	N	7	3.1	.....	.....	10s	.....	Calm	0.65	16.5	Cloudy	
Davenport, Iowa	29.77	756.1	30.53	775.4	—13	—25.0	74	W	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear	
Deadwood, Dakota	25.49	647.4	.....	.....	15	— 9.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Decatur, Texas	29.32	744.7	30.64	778.2	14	—10.0	82	W	9	4.0	.....	.....	10s	.....	W	0.50	12.7	Cloudy	
Denison, Texas	29.71	754.6	30.61	777.5	11	—11.7	80	N	6	2.7	.....	8k	0	N	.....	0.22	5.6	Fair	
Denver, Colorado	24.89	632.2	30.11	764.8	14	—10.0	46	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.58	751.3	30.62	777.7	—13	—25.0	74	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.45	748.0	30.18	766.6	10	—12.2	79	W	6	2.7	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Dodge City, Kansas	27.74	704.6	30.34	770.6	2	—16.7	72	N	8	3.6	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Dubuque, Iowa	29.70	754.4	30.51	774.9	— 7	—21.7	59	Calm	0	0	.....	2k	8ks	N	N	Inap.	Inap.	Cloudy	
Duluth, Minnesota	29.74	755.4	30.51	774.9	3	—16.1	73	NW	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear	
Eagle Pass, Texas	29.63	752.6	30.43	772.9	34	1.1	79	NE	6	2.7	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Eastport, Maine	29.28	743.7	29.34	745.2	23	— 5.0	66	W	20	8.9	.....	5c	0	N	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	52	11.1	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.36	745.7	30.15	765.8	6	—14.4	100	SW	13	5.8	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Escanaba, Michigan	29.53	750.0	30.25	768.3	15	— 9.4	82	NW	8	3.6	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Florence, Arizona	28.65	727.7	30.25	768.3	43	6.1	92	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.68	652.3	29.74	755.4	25	— 3.9	87	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Fort Davis, Texas	25.33	643.4	30.29	769.4	27	— 2.8	88	NE	1	0.4	.....	.....	10s	.....	NE	0.05	1.3	Cloudy	
Fort Gibson, Indian Ter	29.99	761.7	30.61	777.5	8	—13.3	78	N	4	1.8	.....	8k	2s	N	N	0.42	10.7	Cloudy	
Fort Griffin, Texas	29.23	742.4	30.67	779.0	10	—12.2	79	Calm	0	0	.....	0	0	.....	.....	0.11	2.8	Clear	
Fort McKavett, Texas	28.14	714.7	30.26	768.6	21	— 6.1	86	NE	6	2.7	.....	.....	10s	.....	NE	0.50	12.7	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.24	742.7	30.49	774.4	13	—10.6	81	NW	8	3.6	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Fort Stevenson, Dakota	28.58	725.9	.....	.....	—31	—35.0	100	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.67	728.2	30.38	771.6	25	— 3.9	62	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.37	771.4	30.42	772.6	27	— 2.8	88	N	20	8.9	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Graham, Texas	29.43	747.5	30.64	778.2	5	—15.0	100	N	2	0.9	.....	0	0	.....	.....	0.07	1.8	Clear	
Grand Haven, Michigan	29.50	749.3	30.19	766.8	25	— 3.9	87	SW	12	5.4	.....	.....	10n	.....	Calm	0.15	3.8	Heavy snow	
Indianapolis, Indiana	29.55	750.6	30.46	773.7	— 8	—22.2	58	SW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Indianola, Texas	30.43	772.9	30.46	773.7	28	— 2.2	88	N	27	12.1	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Jacksboro, Texas	29.25	742.9	30.55	776.0	3	—16.1	73	N	1	0.4	.....	8cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.24	768.1	30.27	768.8	30	— 1.1	78	N	8	3.6	.....	.....	10n	.....	N	0.07	1.8	Light rain	
Keokuk, Iowa	29.83	757.7	30.57	776.5	—13	—25.0	74	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.07	763.8	30.10	764.5	65	18.3	94	NE	14	6.3	.....	2k	8s	SW	NE	0.10	2.5	Threatening	
Kittyhawk North Carolina	30.15	765.8	30.18	766.6	18	— 7.8	53	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.34	745.2	30.46	773.7	8	—13.3	78	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.65	753.1	30.49	749.0	1	—17.2	85	Calm	0	0	.....	0	5s	.....	Calm	0.01	0.3	Fair	
La Mesilla, New Mexico	26.24	666.5	30.39	771.9	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.03	762.8	30.40	746.7	32	0.0	89	NE	6	2.7	.....	.....	10s	.....	NE	0.10	2.5	Cloudy	
Leavenworth, Kansas	29.68	753.9	30.68	779.3	— 6	—21.1	81	N	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Los Angeles, California	29.80	756.9	30.15	765.8	53.5	11.9	86	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Louisville, Kentucky	29.87	758.7	30.51	774.9	0	—17.8	70	W	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Lynchburg, Virginia	29.49	749.0	30.24	768.1	14	—10.0	46	W	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	29.28	743.7	30.40	772.1	0	—17.8	70	NW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Marquette, Michigan	29.49	749.0	30.25	768.3	21	— 6.1	86	N	16	7.2	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Mason, Texas	28.76	730.5	30.70	779.8	29	— 6.7	70	NE	8	3.6	.....	.....	10s	.....	NE	0.09	2.3	Cloudy	
Memphis, Tennessee	30.18	766.6	30.54	775.7	14	—10.0	61	N	6	2.7	.....	5cs	0	SW	.....	Inap.	Inap.	Fair	
Milwaukee, Wisconsin	29.56	749.3	30.32	770.1	3	—16.1	74	W	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.32	770.1	30.37	771.4	22	— 5.6	86	N	12	5.4	.....	.....	10s	.....	NE	0.19	4.8	Cloudy	
Montgomery, Alabama	30.11	764.8	30.37	771.4	21	— 6.1	85	N	5	2.2	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Morgantown, West Virginia	29.17	740.9	30.36	771.1	4	—15.6	100	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Threatening	
Mt. Washington, N. H.	23.04	585.2	29.40	746.7	0	—17.8	100	NW	28	12.5	.....	.....	Fog	.....	NW	0.16	4.1	Foggy	
Nashville, Tennessee	29.93	760.2	30.54	775.7	7	—13.9	77	N	2	0.9	.....	0	8s	.....	NW	0	0	Fair	
New Haven, Connecticut	29.66	753.4	29.78	756.4	25	— 3.9	75	NW	7	3.1	.....	2cs	0	Calm	.....	0	0	Clear	
New London, Connecticut	29.71	754.6	29.76	755.9	23	— 5.0	73	Calm	0	0	.....	1cs	2s;hz	NW	NW;Calm	0	0	Fair	
New Orleans, Louisiana	30.25	768.3	30.31	769.9	29	— 1.7	89	NW	8	3.6	.....	.....	10s	.....	Calm	0.41	10.4	Cloudy	
Newport, Rhode Island	29.64	752.8	29 69	754.1	24	— 4.4	48	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.69	754.1	29.88	758.9	15	— 9.4	64	W	10	4.5	.....	0	1s	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.10	764.5	30.16	766.1	16	— 8.9	66	W	4	1.8	.....	0	0	.....	.....	0.35	8.9	Clear	
North Platte, Nebraska	27.41	696.2	30.31	769.9	4	—15.6	94	NE	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Olympia, Washington Ter.	29.24	728.1	30.28	769.1	33.2	— 1.0	89	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	29.40	746.7	30.73	780.5	—17	—27.2	85	NW	7	3.1		0	0			0	0	Clear	
Oswego, New York	29.58	751.3	29.91	759.7	23	— 5.0	86	NW	9	4.0			10n			0.23	5.8	Light snow.	
Pembina, Dakota	29.70	754.4	30.70	779.8	—26	—32.2	100	Calm	0	0		0	0			0	0	Clear	
Philadelphia, Pa	29.97	761.2	30.02	762.5	12	—11.1	61	W	10	4.5		0	0			0	0	Clear	
Phœnix, Arizona	29.02	737.1	30.92	785.4	38	3.3	91	Calm			0	0	0			0	0	Clear	
Pike's Peak, Colorado	17.62	447.5	29.83	757.7	— 2	—18.9	Inap.	N	20	8.9		0	0			0	0	Clear	
Pioche, Nevada	24.21	614.9	29.98	761.5	23	— 5.0	73	NW	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.39	746.5	30.31	769.9	— 1	—18.3	68	W	8	3.6			10s			Inap.	Inap.	Cloudy	
Port Huron, Michigan	29.39	746.5	30.11	764.8	15	— 9.4	82	W	11	4.9			10s			0.02	0.5	Cloudy	
Portland, Maine	29.51	749.5	29.56	750.8	24	— 4.4	74	W	5	2.2		1c	Haze	Calm		0.04	1.0	Clear	
Portland, Oregon	30.33	770.4	30.44	773.2	27.0	— 2.8	76	E	1	0.4		5c	0	Calm		0	0	Fair	
Prescott, Arizona	24.81	630.2	30.17	766.3	24	— 4.4	51	Calm	0	0		0	0			0	0	Clear	
Pilot Point, Texas	29.05	737.9	29.94	760.5	18	— 7.8	84	N			2		10n		N	0.06	1.5	Light snow.	
Punta Rassa, Florida	30.10	764.5	30.12	765.0	50	10.0	72	NE	13	5.8		5k	5s	SW	SW	0	0	Cloudy	
Red Bluff, California	29.87	758.7	30.24	768.1	42	5.6	50	N	4	1.8		0	0			0	0	Clear	
Rio Grande City, Texas	30.29	769.4	30.54	775.7	35	1.7	90	N	8	3.6			10n		N	0.20	5.1	Light rain	
Rochester, New York	29.29	744.0	29.95	760.7	12	—11.1	80	W	22	9.8			10n		Calm	0.84	21.3	Light snow.	
Roseburg, Oregon	29.78	756.4	30.39	771.9	32.0	0.0	96	E	4	1.8			10s		Calm	0	0	Cloudy	
Sacramento, California	30.13	765.3	30.21	767.3	37.5	3.1	85	Calm	0	0		0	0			0	0	Clear	
St. Louis, Missouri	29.93	760.2	30.59	777.0	0	—17.8	70	NW	12	5.4		5ck	1s	SW		0	0	Fair	
St. Marks, Florida	30.27	768 8	30.28	769.1	28	— 2.2	88	NE	8	3.6			10n		NE	0.17	4.3	Sleeting	
St. Paul, Minnesota	29.56	750.8	30.50	774.7	— 1	—18.3	80	NW	4	1.8		0	0			0	0	Clear	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	21	— 6.1	71	NW	3	1.3		0	0			0	0	Clear	
San Antonio, Texas	29.76	755.9	30.40	772.1	30	— 1.1	89	N	8	3.6			10s		Calm	0.04	1.0	Cloudy	
San Diego, California	30.09	764.3	30.16	766.1	53.7	12.1	93	NE	2	0.9			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.52	749.8	30.28	769.1	5	—15.0	75	SW	15	6.7			10s		Calm	0.02	0.5	Cloudy	
Sandy Hook, New Jersey	29.84	757.9	29.87	758.7	16	— 8.9	83	W	32	14.3		0	2s		W	0	0	Fair	
San Francisco, California	30.16	766.1	30.23	767.8	45	7.2	76	N	3	1.3		0	0			0	0	Clear	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	18	— 7.8	68	NW	2	0.9		0	0			0.04	1.0	Clear	
Savannah, Georgia	30.18	766.6	30.28	769.1	32	0.0	69	NW	4	1.8			10s		Calm	0	0	Cloudy	
Shreveport, Louisiana	30.30	769.6	30.55	776.0	16	— 8.9	83	N	4	1.8		0	0			0.86	21.8	Clear	
Silver City, New Mexico	24.36	618.7	30.79	782.0	29	— 1.7	89	N			1	0	0			0.06	1.5	Clear	
Smithville, North Carolina	30.22	767.6	30.26	768.6	26	— 3.3	52	NW	5	2.2		10cs	0	W		0	0	Cloudy	
Springfield, Massachusetts	29.60	751.8	29.73	755.1	24	— 4.4	48	NW	8	3.6		0	0			0	0	Clear	
Stockton, Texas	27.28	692.9	30.28	769.1	22	— 5.6	100	N	4	1.8			10s			0.27	6.9	Cloudy	
Thatcher's Island, Mass	29.57	751.1	29.63	752.6	23	— 5.0	86	NW	24	10.7		0	0			0	0	Clear	
Toledo, Ohio	29.49	749.0	30.24	768.1	5	—15.0	75	SW	17	7.6			10s		SW	Inap.	Inap.	Cloudy	
Tucson, Arizona					43	6.1	50	S	2	0.9		0	0			0	0	Clear	
Tybee Island, Georgia	30.27	768.8	30.30	769.6	32	0.0	69	N	8	3.6			10ks		N	0	0	Threatening	
Umatilla, Oregon	30.24	768.1	30.81	782.6	1.0	—17.2	86	SE	4	1.8		0	5s		Calm	0	0	Fair	
Unalashka, Aleutian Islands					33	0.6	100	S			2		10s		SW	0.16	4.1	Cloudy	
Uvalde, Texas	29.54	750.3	30.44	773.2	30	— 1.1	78	N	10	4.5			10s		N	0.01	0.3	Cloudy	
Vicksburg, Mississippi	30.23	767.8	30.52	775.2	17	— 8.3	83	NE	7	3.1			10s		Calm	0.54	13.7	Cloudy	
Virginia City, Montana	24.42	620.3	29.90	759.4	13	—10.6	62	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.81	757.2	30.19	766.8	41.6	5.3	90	W	2	0.9			10ks		Calm	0	0	Cloudy	
Washington, D. C	30.02	762.5	30.15	765.8	7	—13.9	77	NW	22	9.8		5k;cs	0	W		0	0	Fair	
Wickenburg, Arizona					37	2.8	71	NE			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.16	766.1	30.25	768.3	24	— 4.4	74	NW	8	3.6		2c	2s	W	Calm	0	0	Fair	
Winnemucca, Nevada	25.90	657.8	30.26	768.6	10	—12.2	79	Calm	0	0		0	0			0	0	Clear	
Wood's Holl, Mass	29.63	752.6	29.67	753.6	25	— 3.9	75	NW	25	11.2		Haze	0	Calm		0	0	Clear	
Yankton, Dakota	29.29	744.0	30.86	783.8	—20	—28.9	64	SW	3	1.3			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.97	761.2	30.14	765.5	46	7.8	84	NE	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.84	732.5	30.47	773.9	1	—17.2	72												
Havana, Cuba, W. I	30.06	763.5	30.08	764.0	71	21.7	79	Calm	0	0		0	0			0	0	Clear	J. B. Gordon.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	75	23.9	81	Calm	0	0		2c	2s	Calm		0	0		Chas. Hasselbrink.
Medellin, Colombia, S. A																			James Gall.
Navassa, W. I	29.96	761.0	30.04	763.0	79	26.1		NE	8	3.6						0	0	Fair	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	77	25.0	91	S			2	7c	4s	E		0.130	3.30	⅛ clouded	F. M. Everett.
Santiago de Cuba, W. I																			C. J. Hering
St. Thomas, W. I																			Robert Mason.
York Factory, B. A	29.82	757.4	29.87	758.7	—21.0	—29.4		N	8	3.6		0	0			0	0	Clear	G. O. Gellich.
																			J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727.4 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 4,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.3 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.26	768.6	37	2.8	36	2.2	81	Calm	0	0	.....	.....	0	.....	.....	0.13	3.3	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.34	770.6	25	— 3.9	25	— 3.9	100	N	7	3.1	.....	.....	10	.....	NE	Blank	Blank	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.60	751.8	46	7.8	22	— 5.6	86	NW	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital Yokohama, Japan *	30.11‡	764.8‡	.....	.....	37.2	2.9	53	N	.....	.....	1		0	.....	.....	0	0	.....	.....	Clear.....	
Alaska. Panama	30.03	762.8	79	26.1	77	25.0	77	NW	.....	.....	3		2	.....	SE	0	0	.....	.....	Hazy.....	
Alliance. Smyrna, Turkey	29.95‡	760 7‡	.....	.....	66	18.9	53	S	.....	.....	3–4	.....	4	.....	S	.....	.....	.....	.....	Pleasant.....	
Ashuelot. N. 13° 43′, E. 100° 29′	30.08	764.0	76	24.4	74	23.3	68	N	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La	30.21	767.3	32	0.0	27	— 2.8	100	NE	.....	.....	4	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Colorado. New York, N. Y.	29.78	756.4	16	— 8.9	16	— 8.9	100	WSW	10	4.5	.....	.....	2	.....	WNW	0	0	.....	.....	.....	
Constitution. Havre, France	30.08‡	764.0‡	.....	.....	43	6.1	92	SSW	.....	.....	1–2	.....	8	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	29.82‡	757.4‡	.....	.....	60	15.6	60	SSW	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.	30.28	769.1	70	21.1	20	— 6.7	100	W	3.6	1.6	.....	.....		.....	W	0	0	.....	.....	Clear.....	
Gettysburg, Villafranca, France	29.92‡	760.0‡	.....	.....	60	15.6	32	W	.....	.....	1–2	.....	2	.....	.....	0	0	Smooth	.....	D. clouds.....	
Hartford, Montevideo, Uruguay	30.15	765.8	67	19.4	64	17.8	62	SSE	8.4	3.8	.....	.....	2	.....	SSE	0	0	Smooth	.....	Clear	
Lackawana, N. 11° 17′, W. 86° 23′	29.73‡	755.1‡	.....	.....	83	28.3	75	ESE	.....	.....	2	.....	5	.....	.....	0	0	Light	ESE	Fair.....	
Michigan, Erie, Pa.	30.05†	763.3†	.....	.....	7	—13.9	77	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Yokohama, Japan *	30.16‡	766.1‡	.....	.....	39	3.9	37	NNW	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire. Port Royal, S. C.	30.24†	768.1†	.....	.....	33	0.6	61	N	8	3.6	.....	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Onward. Callao, Peru	30.03†	762 8†	.....	.....	60	15.6	74	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.28	769.1	37	2.8	24	— 4.4	100	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	9	—12.8	78	W	.....	.....	0	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Pensacola, Punta Arenas, Costa Rica	29.92‡	760.0‡	.....	.....	73	22.8	85	N	1.0	0.4	.....	.....	1	.....	.....	0	0	.....	.....	Clear	
Powhatan, Norfolk, Va.	30.08	764.0	19	— 7.2	20	— 6.7	85	WNW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Quinnebaug, Norfolk, Va.	30.18‡	766.6‡	.....	.....	20	— 6.7	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Richmond, New York, N. Y.	29.97‡	761.2‡	.....	.....	18	— 7.8	100	W	.....	.....	3–4	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas	30.24	768.1	48	8.9	36	2.2	100	NW	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	30.09‡	764.3‡	.....	.....	8	—13.3	.....	WNW	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa.	29.92	760 0	52	11.1	10	—12.2	.....	W	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, N. 49° 19′, W. 5° 51′	29.98‡	761 5‡	.....	.....	46	7.8	92	SE	.....	.....	6	.....	10	.....	SE	.....	.....	Rough	SE	Cloudy.....	
Trenton Villafranca, France *	29.86‡	758.4‡	.....	.....	70	21.1	82	N	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, N. 13° 21′, W. 89° 24′	29.96‡	761.0‡	.....	.....	80	26.7	78	E	.....	.....	1	.....	2ks	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia, N. 30° 36′, W. 69° 28′	30.02‡	762.5‡	.....	.....	59	15.0	70	W	.....	.....	6	.....	10	.....	W	.....	.....	Rough	W	Cloudy	
Wabash, Boston, Mass.	29.71‡	754.6‡	.....	.....	18	— 7.8	.....	NW	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		30.06	763.5				E			1–2				E				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer,																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 28° 31′, E. 127° 37′		30.22†	767.6†	56	13.3	?	N			5		8		Var.	0	Sm'e		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionaly by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

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

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

AMERICAN S. S. CO. MARINE SERIES.

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

S. S. Indiana, N. 42° 4', W. 62° 35'		29.18*	741.2*	36	2.2	90	W			8		4		W	0	Heavy	SW	Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 51° 00', W. 14° 20'		29.87†	758.7†	55	12.8	93	W			2		10		W	Blank	Heavy	Var.	Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 45° 52' W 57° 19'		28.63*	727.2*	37.5	3.1		WNW			7		10s		W		High; Short	WSW	Snowing	Capt. W. Richardson
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgens

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 6, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.45	773.5	63.0	17.2	79	NE	.....	.....	4	.....	1	.....	.....	0	0	Very fair.	
Nemours	.....	.....	30.37	771.3	66.6	19.2	61	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.17	766.2	61.2	16.2	66	W	.....	.....	7	.....	0	.....	.....	Inap.	Inap.	Clear.	Tourilliere.
La Calle	.....	.....	30.15	765.7	61.9	16.6	49	WNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.17	766.4	57.7	14.3	67	W	.....	.....	4	.....	10	.....	.....	0	0	Covered	Jacques.
Sfax	.....	.....	30.21	767.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gar.
Saida	.....	.....	30.23	767.8	57.2	14.0	29	W	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.06	763.5	53.1	11.7	27	NNW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.18	766.6	50.4	10.2	92	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.15	765.9	59.4	15.2	34	SSE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.19	766.8	62.4	16.9	46	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.53	750.0	30.10	764.6	34.2	1.2	80	SE	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.31	744.4	30.12	765.0	25.9	— 3.4	100	WNW	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	Dr. Wierzbiski
Eperies	29.10	739.1	30.03	762.7	28.0	— 2.2	79	Calm	.....	.....	0	.....	4cs	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.83	732.2	30.14	765.6	29.5	— 1.4	84	S	.....	.....	2	.....	2	.....	.....	0.012	0.3	.....	Andreas Rospini.
Hermannstadt	28.50	724.0	30.00	762.1	30.6	— 0.8	85	SW	.....	.....	1	.....	10	.....	.....	0.018	0.45	.....	Prof. A. Gottschling.
Kremsmünster	28.76	730.4	30.17	766.3	30.6	— 0.8	86	W	.....	.....	2	.....	10	.....	.....	0.039	1.0	.....	Prof. C. Wagner.
Lemberg	28.91	734.3	29.94	760.5	32.4	0.2	90	NW	.....	.....	1	.....	2	.....	.....	0.016	0.4	.....	Dr. T. Stanecki.
Pola	29.97	761.1	30.08	764.0	44.2	6.8	46	ENE	.....	.....	2	.....	8	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.59	751.5	30.08	763.9	31.6	— 0.2	92	NW	.....	.....	3	.....	7	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.76	755.8	29.95	760.8	34.3	1.3	76	N	.....	.....	2	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.01	762.2	30.11	764.8	44.1	6.7	74	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.37	746.1	30.12	765.1	34.2	1.2	78	W	.....	.....	4	.....	9	.....	.....	0.028	0.7	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, m. p.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.13	765.3	30.24	768.1	34.6	1.4	.....	W	4	1.8	.....	.....	4	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.16	766.1	30.18	766.6	34	1.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Armagh, Observatory	.....	.....	30.09	764.3	35.6	2.0	.....	SSE	17	7.6	.....	.....	10	.....	.....	.....	.....	Snowy	George Carrick.
Bidston, (Liverpool Obs.)	.....	.....	30.22	767.6	28.9	— 1.7	.....	SE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bolton	.....	.....	30.21	767.3	31.6	— 0.2	.....	N	.....	.....	.....	.....	10	.....	.....	.....	.....	Foggy	John Hartnup.
Bradford, Yorkshire	29.81	757.2	30.20	767.1	33.5	0.8	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	Thomas Mackereth.
Bridgetown, (Barbados)	29.98	761.5	30.02	762.5	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	J. McLandsborough.
Cambridge, Observatory	.....	.....	30.25	768.3	31.9	— 0.1	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Pvt. J. Surgener, A. H.
Cardington	.....	.....	30.26	768.6	29.0	— 1.7	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [O.
Chatham, School M. E.	30.12	765.0	30.26	768.6	32.7	0.4	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Dartmoor	28.63	727.2	30.16	766.1	34.0	1.1	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	Gloomy	Lt. W. G. Morris, R.E.
Donaghadee	30.11	764.8	30.15	765.8	39	3.9	.....	SSE	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast	Alexander Watt.
Dover	30.19	766.8	30.22	767.6	36	2.2	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	½ Covered	J. Mac Gowan.
Falmouth, Observatory	29 90	759.4	30.14	765.5	42.8	6.0	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Costello.
Fort Napier, (Natal)	27.76	705.1	30.07	763.8	69.0	20.6	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Free Town, (Sierra Leone)	29.70	754.4	29.93	760.2	77	25.0	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Galway, Queen's College	.....	.....	29.89	759.2	38	3.3	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.34	770.6	30.40	772.1	61.5	16.4	.....	N	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.98	761.5	30.19	766.8	31.1	— 0.5	.....	NNE	.....	.....	2	.....	.....	.....	.....	.....	.....	Foggy	D. G. Maclean.
Great Yarmouth	30.20	767.1	30.21	767.3	33	0.6	.....	WNW	.....	.....	2	.....	6	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich, Royal Obs'y	30.07	763.8	30.26	768.6	27.9	— 2.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	The Staff, or G. B. Airy
Guernsey	29.98	761.5	30.21	767.3	40	4.4	.....	SE	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	Dr. S. E. Hoskins, F.R.S.
Helston	30.05	763.3	30.17	766.3	46	7.8	.....	SE	.....	.....	1	.....	10n	.....	.....	.....	.....	Light rain	M. P. Moyle.
Holyhead	30.07	763.8	30.13	765.3	35	1.7	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.95	760.7	30.25	768.3	39.2	4.0	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	30.22	767.6	30.25	768.3	30.6	— 1.1	.....	WSW	1	0.4	.....	.....	.....	.....	.....	.....	.....	Misty	The Staff.
Kingstown	30.08	764.0	30.11	764.8	39	3.9	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Drizzling	George Mitchell.
Leicester, Museum	29.98	761.5	30.25	768.3	25.9	— 3.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.06	763.5	30.14	765.5	58	14.4	.....	NW	.....	.....	1	.....	3	.....	.....	0.10	2.5	Blue sky	Sergt. Beckett, A. H. C.
Nairn	30.10	764.5	30.20	767.1	31	— 0.6	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Hazy	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.01	762 2	70.0	21.1	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.05	763 3	30.25	768.3	22.7	— 5.2	.....	Calm	.....	.....	0	.....	10k	.....	NW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.69	754.1	30.24	768.1	30.2	— 1.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.26	768.6	26	— 3.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	H. E. Bellamy.
Plymouth	30.11	764.8	30.18	766.6	40.5	4.7	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Roche's Pol	30.00	762.0	30.05	763.3	44	6.7	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.97	761.2	30.15	765.8	39	3.9	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	30.23	767.8	33.8	1.0	.....	SE	8	3.6	.....	.....	1	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.83	757.7	40.8	4.9	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Sergt. W. H. Lyne.
Sheffield	29.96	761.0	30.25	768.3	34.2	1.2	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy	W. F. Cooper.
Silloth Rectory	30.19	766.8	30.22	767.6	31.2	— 0.4	83	SW	.....	.....	2	.....	9	.....	.....	0	0	D. clouds	F. H. Redford.
Stonyhurst Observatory	29.82	757.4	30.23	767.8	29.0	— 1.7	.....	WNW?	.....	.....	0?	.....	9	.....	.....	.....	.....	Threatning	Rev. S. J. Perry.
Stratfield Turgiss	30.04	763.0	30.27	768.8	27.4	— 2.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	D. clouds	Rev. C. H. Adams, F.M.S
Thurso	30.12	765.0	30.18	766.6	34	1.1	.....	SSE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	30.15	765.8	43	6.1	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	29.88	758.9	29.91	759.7	47.0	8.3	.....	SE	37	16.5	.....	.....	10	.....	.....	Blank	Blank	Gloomy	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.94	760.5	66.0	18.9	84	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.24	768.1	31.5	— 0.3	.....	SE	.....	.....	1	.....	10k	.....	.....	0	0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.78	756.4	29.97	761.2	81.9	27.7	58	E	18.5	8.3	.....	0	4	.....	ESE	0.08	2.0	Squally	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	71.0	21.7	69	NW	10	4.5	.....	.....	0	.....	.....	0	0	Hazy	R. L. J. Ellery.
Monach L't-house, (Hebrides	.....	.....	29.94	760.5	38	3.3	.....	SSE	.....	.....	7	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series: 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile.
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	63.5	17.5	80	NE	.....	.....	2	4ck	.....	.....	.....	0.14	3.6	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	30.09	764.2	30.13	765.4	21.7	— 5.7	85	N	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Fanöe	30.16	766.1	30.18	766.6	26.4	— 3.1	85	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Snowing.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Styk'isho'm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	30.06	763.6	30.23	767.9	26.2	— 3.2	87	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.71	754.6	30.26	768.6	34.5	1.4	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.15	765.7	30.26	768.7	34.2	1.2	85	W	.....	.....	1	.....	5	.....	E	0	0	Cloudy	Bonvallet, Director.
Avignon, Normal School	30.01	762.2	30.09	764.2	41.4	5.2	61	N	.....	.....	3	.....	5	.....	NW	0.051	1.3	Cloudy	M. Giraud, Director.
Bar-sur-Seine	29.66	753.4	30.26	768.6	34.7	1.5	74	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saillard, Director.
Beauvais, Normal School	29.99	761.8	30.30	769.5	33.6	0.9	85	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Eugene Marie, Director.
Besançon, Normal School	29.25	743.0	30.19	766.9	33.8	1	.....	E	.....	.....	6	.....	0	.....	.....	0	0	Clear	A. Carre, Director.
Bourg-en-Bresse, N. School	29.32	744.7	30.23	767.8	31.5	— 0.3	89	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.88	758.9	30.12	765.1	39.6	4.2	87	SE	.....	.....	2	.....	10	.....	SE	0.423	10.75	Raining	M.de Rermaur, Director.
Carcassonne, Normal School	29.66	753.4	30.08	764.1	52.9	11.6	61	NW	.....	.....	2	.....	5	W	W	0.157	4.0	Cloudy	September, Director.
Caen, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Lair, Director.
Chartres, Normal School	29.64	752.8	30.23	767.8	36.9	2.7	79	ENE	.....	.....	1	.....	10	.....	W	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.93	760.1	30.26	768.5	28.6	— 1.9	.....	SW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.73	729.8	30.15	765.8	36.0	2.2	82	NE	.....	.....	1	.....	10	.....	N	0.638	16.2	Covered	Alluard, Director.
Commercy, Normal School	29.40	746.7	30.32	770.1	29.3	— 1.5	85	NW	.....	.....	1	.....	2k	.....	NW	0	0	Misty	Dr. Coulet, Director.
Commune de Grésaque *	28.93	734.8	30.07	763.8	42.4	5.8	67	N	.....	.....	1	.....	8	.....	N	0.04	1.	¾ covered	M. King, Director.
Grenoble, Normal School	29.40	746.7	30.20	767.1	36.7	2.6	61	ENE	.....	.....	1	5c	.....	NNW	.....	0	0	Cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	30.01	762.2	30.23	767.9	38.5	3.6	97	E	.....	.....	1	.....	10	.....	.....	0.465	11.8	Covered	Mouillot, Director.
Le Mans, Normal School	29.95	760.7	30.28	769.0	35.1	1.7	93	ESE	.....	.....	1	.....	10	.....	NW	0.110	2.8	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.24	742.6	30.20	767.1	32.9	0.5	76	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.13	765.4	30.23	767.9	38.1	3.4	97	ESE	.....	.....	3	.....	.....	.....	SE	0.819	20.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	..... Galzin, Director
Mirecourt, Normal School	29.15	740.3	30.24	768.1	30.9	— 0.6	96	NE	.....	.....	1	.....	k	.....	W	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.93	760.1	30.10	764.4	41.4	5.2	75	N	.....	.....	1	.....	10	.....	N	0.059	1.5	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.15	638.7	.....	.....	27.1	— 2.7	100	E	.....	.....	2	.....	10	N	.....	0.638	16.2	Covered	Alluard, Director.
Rochefort, Naval Obs'y	30.17	766.2	30.20	767.9	40.3	4.6	87	E	.....	.....	1	.....	10	E	E	0.55	14.	Covered	Lt. Decante, Director.
Rouen, Normal School	30.19	766.8	30.28	769.0	36.5	2.5	74	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port)	30.18	766.6	30.21	767.4	34.5	1.4	72	SE	.....	.....	2	.....	10	SE	SE	0.102	2.60	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.10	764.4	30.26	768.6	36 1	2.3	81	N	.....	.....	1	.....	c	NNW	.....	0	0	.....	E. Renou, Director.
Tarbes, Normal School	29.13	739.9	30.22	767.6	48.2	9	73	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.60	751.7	30.34	770.5	41.0	5	84	NW	.....	.....	1	.....	.....	.....	N	0.571	14.5	Misty	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.51	13.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.19	766.9	35.6	2.0	73	N	.....	.....	1	.....	1	.....	.....	0	0	Blue sky	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.82	630.5	30.14	765.5	42.8	6.0	65	NW	15.0	6.7	.....	.....	4	.....	S	0	0	.....	M. Cave.
Nice	.....	.....	30.06	763.6	49.6	9 8	54	NNW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.98	761.4	.....	.....	34.9	1.6	74	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	Marié Davy, Director
Perpignan	29.97	761.2	30.08	763.9	52.5	11.4	84	NE	11.2	5.0	.....	.....	8	.....	WNW	0.094	2.4	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade,) H. P.	22.54	572.5	.....	.....	30.6	— 0.8	.....	N	.....	.....	1	.....	10	.....	.....	2.240	56.9	Snowy	Gen'l de ansouty.
Toulouse, Observatory	29.44	747.8	30.17	766.2	47.5	8.6	94	NW	.....	.....	3	.....	10	.....	.....	0.469	11.9	.....	M. Mercadier Julier.
Tours	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.224	5.7	.....	C. Marquet.
Versailles, Observatory	.....	.....	30.25	768.3	36.0	2.2	.....	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Dr. A. Bernay, Director.
Zi-Ka-Wei, (near Shanghai)	30.31	769.9	30.34	770.5	33.4	0.8	90	E	7.4	3.3	.....	7cs	Mist	.....	.....	0	0	Cloudy	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grésaque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (0–1)	Clouds. Amount. Up'er (0–10)	Clouds. Amount. Low'r (0–10)	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.24	742.8	30.09	764.3	33.6	0.9	85	W	.....	.....	6	.....	8	NW	.....	0.024	0.4	Snowing	Prof. Dr. Hoh.
Berlin	29.95	760.7	30.13	765.3	32.2	0.1	76	NE	.....	.....	1	.....	10	.....	.....	0.055	1.4	Showery	Prof. Arndt.
Breslau	29.59	751.6	30.12	765.1	28.2	— 2.1	75	NW	.....	.....	2	.....	9	.....	.....	0.027	0.68	.....	Royal University Obs'y
Carlsruhe	29.75	755.7	30.21	767.2	34.9	1.6	68	SW	.....	.....	1	.....	1	SW	.....	0.008	0.2	Snowing	Albert Senz.
Cassel	29.53	750.1	30.14	765.6	30.9	— 0.6	80	E	.....	.....	2	.....	5	E	.....	.....	.....	Snowing	Dr. H. Möhl.
Crefeld	30.00	762.0	30.16	766.1	36.5	2.5	85	SW	.....	.....	2	.....	7	.....	.....	0.08	2.	Foggy	Director Lose.
Emden	.....	.....	.....	.....	33.1	0.6	86	W	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.84	757.8	30.22	767.5	35.2	1.8	.....	SSW	.....	.....	1	.....	1	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.72	729.4	30.23	767.7	32.5	0.3	38	NE	.....	.....	5	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	30.04	762.9	30.11	764.8	30.9	— 0.6	100	WSW	.....	.....	3	.....	10	.....	.....	0.020	0.5	Snowing	Captain F. Hegemann
Kiel	30.12	765.0	30.13	765.4	30.6	— 0.8	78	NNE	.....	.....	3	.....	10	.....	.....	0.099	2.53	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.88	759.0	29.97	761.2	30.2	— 1.0	81	NW	.....	.....	2	.....	4	.....	.....	0.189	4.8	Snowing	Prof. E. Luther.
Köslin	.....	.....	30.04	763.0	27.5	— 2.5	.....	W	.....	.....	2	.....	3	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.74	755.3	30.18	766.5	34.3	1.3	87	WNW	.....	.....	1	.....	10	NW	.....	.....	.....	Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.90	759.5	29.95	760.7	29.3	— 1.5	78	N	.....	.....	1	.....	10n	.....	.....	.....	.....	Snowing	Skalweit.
Neufahrwasser	30.04	763.0	30.06	763.4	28.6	— 1.9	78	NW	.....	.....	3	.....	7	.....	.....	0	0	.....	A. Lothes.
Posen	29.85	758.1	30.15	765.9	27.3	— 2.6	74	NW	.....	.....	5	.....	10	.....	.....	0.008	0.2	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.66	753.4	30.24	768.2	32.4	0.2	81	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.22	742.3	30.22	767.5	32.0	0.0	81	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.62	727.0	30.21	767.2	31.5	— 0.3	92	Calm	0	0	.....	.....	10	.....	.....	0.043	1.1	.....	Dr. Van Bebber.
Wustrow, Naval School	30.12	765.1	30.15	765.7	29.5	— 1.4	88	NE	.....	.....	2	.....	10s	.....	.....	0	0	.....	E. Schütz, Dir.
GERMAN NAVAL SERIES.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.59	751.5	29.98	761.4	58.5	14.7	.....	SW	.....	.....	2.5	.....	.....	.....	.....	.....	.....	½ clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	759.9	29.97	761.2	73.7	23.2	52	NW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.54	750.3	30.03	762.7	74.4	23.6	21	NW	.....	.....	.....	.....	3	WSW	.....	0	0	D. clouds	
Bombay	29.90	759.6	29.94	760.5	77.3	25.2	80	NNW	12.0	5.4	.....	.....	1	SW	.....	0	0	D. clouds	
Poona	27.93	709.5	29.94	760.4	79.4	26.3	.....	ESE	.....	.....	.....	.....	3	ESE	.....	0	0	Blue sky	
Lahore	29.23	742.5	30.01	762.3	58.6	14.8	43	Calm	1.2	0.5	.....	.....	8	.....	.....	0	0	Cloudy	
Belgaum	27.40	696.0	29.94	760.5	77.2	25.1	58	Calm	0	0	.....	.....	4	.....	.....	0	0	D. clouds	
Roorkee	29.06	738.1	29.99	761.7	63.6	17.6	55	NW	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Agra	29.44	747.7	30.02	762.6	64.8	18.2	41	N	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.91	734.4	29.97	761.3	75.1	23.9	27	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky	
Lucknow	29.61	752.1	30.00	761.9	66.1	18.9	29	NNW	0.9	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.68	754.0	30.01	762.2	61.4	16.3	66	Calm	0.3	0.1	.....	.....	2	.....	.....	0	0	D. clouds	
Patna	29.80	756.8	29.99	761.7	65.2	18.4	81	W	0.4	0.2	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.92	709.0	29.99	761.6	65.0	18.3	48	NW	2.8	1.2	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.91	759.8	30.00	761.9	69.8	21.0	62	Calm	1.1	0.5	.....	.....	1	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.97	761.2	29.99	761.8	67.0	19.4	75	W	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	.....	.....	.....	.....	70.4	21.3	67	Calm	1.6	0.7	.....	.....	9	.....	.....	0	0	D. clouds	
Chittagong	29.90	759.6	30.00	762.1	70.1	21.2	83	Calm	2.9	1.3	.....	.....	0	.....	.....	0	0	Dust-haze	
Sibsagar	29.64	752.8	29.99	761.7	64.5	18.1	89	ENE	1.2	0.5	.....	.....	10	SW	SW	1.01	25.6	Overcast	
Jubbulpore	28.61	726.7	30.02	762.6	63.5	17.5	49	Calm	1.6	0.7	.....	.....	0	.....	.....	0	0	Blue sky	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 3124m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,557 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.70	754.4	30.13	765.2	41.0	5.0	38	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.02	762.4	30.13	765.3	39.2	4.0	70	N	2.5	1.1	.....	.....	4	ENE	.....	0.260	6.6	.....	Prof. Dott. Lorenzoni
Milan	29.58	751.3	30.12	765.1	36.3	2.4	91	SSW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Schieparelli.
Moncalieri	29.19	741.5	30.14	765.5	37.4	3.0	78	S	.....	.....	2	.....	4	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.13	714.6	30.11	764.7	34.0	1.1	80	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.87	758.6	30.06	763.6	43.3	6.3	42	N	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.79	756.6	30.05	763.3	43.5	6.4	55	NNE	.....	.....	6	.....	0	.....	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.92	760.0	30.01	762.2	43.9	6.6	52	ENE	9.8	4.4	.....	.....	7	NNW	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.01	762.3	30.06	763.6	42.1	5.6	75	NE	16.1	7.2	.....	.....	10	.....	.....	0.079	2.0	.....	Prof. Luigi Guidi.
Rome	29.84	757.9	30.02	762.5	44.4	6.9	75	N	6.3	2.8	.....	.....	10	.....	.....	0.024	0.6	.....	Prof. P. S. Ferrari.
Lecce	29.80	757.0	30.06	763.5	49.1	9.5	49	NNE	6.9	3.1	.....	.....	10	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.82	757.5	30.02	762.4	56.8	13.8	62	NW	.....	.....	4	.....	7	NW	.....	0.008	0.2	.....	Prof. A. Pacinotti.
Cosenza	29.15	740.4	30.05	763.3	48.2	9.0	74	SW	1.3	0.6	.....	.....	10	.....	.....	0.697	17.7	.....	Prof. D. Conti.
Palermo	29.84	757.8	30.10	764.4	53.4	11.9	53	W	4.9	2.2	.....	.....	10	W	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.02	762.5	30.10	764.4	56.5	13.6	52	NW	1.3	0.6	.....	.....	10	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																		.....	
Naples, S. R.	28.66	727.9	30.00	762.0	45.7	7.6	64	SW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.32	770.1	30.34	770.6	35.2	1.8	71	NNE	3.3	1.5	.....	.....	1s;ck	.....	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.17	766.3	30.38	771.6	34.5	1.4	88	Calm	0	0	.....	.....	7ck;s	NW	.....	0	0	Cloudy	S. Takekayashi.
Tokei (Yeddo) Observatory	30.14	765.5	30.22	767.6	32.0	0.0	74	ESE	4.9	2.2	.....	0	0	.....	.....	0	0	Very clear..	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.9	30.37	771.4	41.9	5.5	57	SW	.....	.....	1	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.52	622.8	30.20	767.2	52.0	11.1	77	NNW	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.15	588.1	30.29	769.4	47.8	8.8	72	N	2.2	1.0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	48.7	9.3	64	NNW	.....	.....	2	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.32	770.1	30.33	770.4	62.8	17.1	82	N	.....	.....	8	0	10	.....	NW	0.161	4.1	Rainy	M. M. Cházaro.
San Luis Potosi	24.32	617.1	30.41	772.3	41.0	5.0	40	NW	.....	.....	.....	.....	10	.....	NW	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.35	770.9	30.38	771.5	64.4	18.0	71	N	35.8	16.0	.....	.....	10n	.....	N	Inap.	Inap.	Threatening	Prof. J. Rossell.
Zacatecas	22.62	574.6	.....	.....	52.7	11.5	47	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.46	595.0	30.20	767.0	47.7	8.7	80	NNE	7.2	3.2	.....	.....	.....	.....	.....	.....	.....	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.43	722.0	30.10	764.6	69.8	21.0	68	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	R. Panda, C. E.
San Juan E. Michapam	30.15	765.7	30.28	769.1	65	18.3	.....	NW	.....	.....	5	7n	3n	NW	NW	0.138	3.5	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.21	767.4	30.21	767.4	40.3	4.6	.....	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.07	763.6	30.12	765.0	34.3	1.3	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.13	765.4	30.13	765.4	38.1	3.4	.....	NW	.....	.....	1	.....	.....	.....	.....	0.016	0.4	.....	
Hellevoetsluis	30.17	766.2	30.17	766.2	40.3	4.6	90	WNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.11	764.7	30.15	765.9	37.8	3.2	95	WSW	.....	.....	2	.....	8	.....	.....	0.020	0.5	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.14	765.6	30.20	767.0	24.8	— 4.0	55	SSE	3.9	1.6	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.21	767.3	30.25	768.3	23.7	— 4.6	77	S	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	30.15	765.7	30.30	769.7	19.6	— 6.9	62	N	13	6	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.80	757.0	29.85	758.1	24.8	— 4.0	87	S	27	12	.....	.....	10	.....	.....	0.374	9.5	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.21	767.2	30.40	772.1	62.2	16.8	92	SW	7.4	3.3	.....	.....	7	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.47	747.5	30.47	774.0	51.8	11.0	95	W	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.45	773.3	30.53	775.5	68.0	20.0	56	SW	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	30.17	766.2	30.53	775.4	57 9	14.4	90	WNW	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.41	772.4	30.48	774.2	63.0	17.2	94	SW	15.0	6.7	.....	.....	10	.....	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com' d't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Rio Lima, Capt. da Silva Costa.																			
Porto Praya, Cape Verd Ids	.....	.....	30.11	764.8	78.8	26.0	.....	ENE	.....	.....	5	.....	9	.....	.....	4	ESE	D. clouds.....	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Quanza, [lantic.																			
St. Thomas Id., Gulf of Guinea, S. At.	.....	.....	29.94	760.4	82.4	28.0	.....	NE	.....	.....	1	.....	5	.....	NW	2	SSE	D. clouds.....	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda	.....	.....	29.88	759.0	78.1	25.6	.....	Calm	.....	.....	0	.....	10	.....	Calm	0	.....	Overcast	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.19	766.8	59.7	15.4	.....	NNE	.....	.....	2	.....	9	.....	.....	1	.....	Blue sky	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.60	751.8	30.04	763.1	26.8	— 2.9	83	NW	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs
Wilna	29.44	747.8	29.88	759.0	25.5	— 3.6	91	W	2	1	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.51	749.6	29.77	756.1	23.2	— 4.9	86	WNW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.53	750.0	29.54	750 4	22.3	— 5.4	90	NNW	13	6	.....	.....	9n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.22	742.1	29.88	758.9	30.0	— 1.1	63	NW	4	2	.....	.....	6c;ck;	cs].....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.84	757.8	29.91	759.6	34.2	1.2	75	NNE	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.72	754.9	29.74	755.4	49.3	9.6	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Moscow	29.10	739.2	29.69	754.0	18.7	— 7.4	83	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.47	748.4	29.68	753.8	32.7	0.4	96	N	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.41	747.0	29.43	747.5	13.6	—10.2	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.62	726.9	30.07	763.8	43.3	6.3	50	N	4	2	.....	.....	2c	.....	.....	.....	.....	Light clouds	Physical Observatory
Astrakhan	30.02	762.5	29.94	760.4	41.7	5.4	85	SE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.21	741.9	29.69	754.1	32.4	0.2	93	SSW	2	1	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Fatjanow.
Kasan	29.32	744.6	29.60	751.7	33.1	0.6	89	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.85	752.9	29.85	758.3	28.2	— 2.1	83	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.96	760.9	30.20	767.1	30.2	— 1.0	100	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	
Tashkend	28.57	725.6	30.31	769.9	48.9	9.4	61	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.76	755.9	30.33	770 4	14.7	— 9.6	99	NNE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.25	768.4	30.58	776.7	0.7	—17 4	88	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.04	763.0	30.18	766.6	30.2	— 1.0	67	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.98	761.4	30.06	763.6	—18.0	—27.8	.....	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness wtihout distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.94	760.5	30.05	763.2	57 2	14	64	E	2.0	0.89	.....	.....	1ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.15	765.7	30.21	767 2	56.1	13.4	98	NW	1.9	0.83	.....	.....	10	.....	.....	1.067	27.1	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	692.9	.....	.....	47.8	8.8	94	SW	11.6	5.17	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	28.05	712.5	.....	.....	53.6	12.0	81	SW	4.3	1.94	.....	0	8	.....	.....	0	0	Cloudy.....	The Staff.
Murcia, Met. Obs'y	30.13	765.2	30.28	769 0	70.0	21.1	51	NNW	2.4	1.08	.....	3	4	SW	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.43	747.4	30.33	770.3	54.9	12.7	98	SW	10.5	4.7	.....	.....	10	.....	.....	0.728	18.5	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I	30.09	764.4	30.16	766.1	66.2	19.0	84	NNW	11.4	5.1	.....	.....	10n	.....	.....	0.079	2.0	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.85	758.4	29.91	759.7	82.0	27.8	77	NE	0	0	.....	0	1	.....	E	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.40	772.2	30.50	774.7	55.9	13.3	84	NW	6.6	3.0	.....	0	3	.....	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.01	762.3	30.10	764.6	73.4	23 0	90	SE	0	0	.....	2s	2k	E	E	0.049	1.25	Clear.....	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower From—	Inches.	Millimeters.		
Haparanda	30.06	763.4	30.10	764.4	6.4	—14.2	.....	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.08	764.1	30.13	765.4	12.2	—11.0	79	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.16	766.1	30.21	767.4	14.7	— 9.6	74	NNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Stockholm	29.87	758.8	30.05	763.3	20.5	— 6.4	90	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	
Wisby	29.89	759.2	29.95	760.7	28.4	— 2.0	84	NNE	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.00	761.9	30.07	763.8	19.0	— 7.2	95	NNW	15.9	7.1	.....	.....	7	ENE	.....	0.009	0.22	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.71	729.2	30.20	767.1	32.9	0.5	67	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.52	724.3	30.24	768.1	29.8	— 1.2	68	E	.....	.....	2	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.5 mm.; Thermometer, —0.9 cent.; Relative Humidity, —13 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.88	759.0	41.0	5.0	87	N	18	8.0	.....	.....	10	.....	N	0.283	7.2	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.	.....	.....	30.05	763.2	58.1	14.5	.....	W	.....	.....	2	.....	5	.....	.....	0.32	8.	Cloudy	A. Bertrand.
Beirut, (Syria,) Lee Obs'y	30.02	762.5	30.14	765.6	70.9	21.6	47	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	29.52	749.8	29.59	751.6	30.4	— 0.9	.....	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.68	753.9	30.02	762.5	6	—14.4	.....	NW	1	0.4	.....	.....	8s	.....	NW	0	0	Cloudy	W. R. Bigg.
*Chatham, N. B	29.47	748.5	29.53	750.0	17	— 8.3	92	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.43	747.5	29.48	748.8	24	— 4.4	88	W	4	1.8	.....	.....	8ks	.....	W	0.100	2.54	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.74	755.4	29.95	760.7	2.9	—16.2	100	NW	.....	.....	1	0	3s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.17	766.3	30.22	767.6	36.1	2.3	100	Calm	.....	.....	.....	5cs	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.61	752.1	29.64	752.8	24	— 4.4	83	NW	15	6.7	.....	8cs	2s	Calm	NW	0.03	0.8	Cloudy	J. McWilliams.
Fredericton, N. B	29.56	750.8	29.63	752.6	21.1	— 6.1	84	NW	8.0	3.6	.....	2c	0	.....	.....	0	0	Fine	Prof. Harrison.
*Fort Garry Manitoba	28.88	733.5	29.78	756.4	4	—15.6	92	S	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.95	735.3	30.13	765.3	19	— 7.2	.....	NW	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Overcast	James Grant.
*Halifax, N. S	29.39	746.5	29.53	750.0	22	— 5.6	89	W	7	3.1	.....	2ck	2ks	W	W	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.05	763.3	21.3	— 5.9	84	SW	.....	.....	1	5ck	0	W	.....	0	0	Fair	Geo. Dickson, M. A.
Heart's Content, N. F	29.15	740.4	29.17	740.9	33	0.6	100	SW	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Snowing	E. Weedon.
*Kingston, Ontario	29.64	752.8	30.02	762.5	6	—14.4	76	N	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.38	746.2	29.42	747.2	33.0	0.6	80	SW	6	2.7	.....	5ck	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.69	754.1	29.91	759.7	8	—13.3	80	W	17	7.6	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	30.06	763.5	30.10	764.5	—19.6	—28.7	100	SW	.....	.....	2	2cs	0	.....	.....	0.05	1.3	Fair	J. R. Nason.
*Parry Sound, Ontario	29.37	746.0	30.15	765.8	1	—17.2	66	NW	3	1.3	.....	2cs	0	NW	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.25	742.9	30.08	764.0	5.8	—14.6	64	NW	.....	.....	.....	5k	0	.....	.....	.....	.....	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.37	746.0	30.12	765.0	21	— 6.1	85	W	12	5.4	.....	10k	0	W	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.40	746.7	29.45	748.0	26.7	— 2.9	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.48	748.8	30.18	766.6	17	— 8.3	92	W	.....	.....	.....	.....	10n	.....	W	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec	29.41	747.0	29.76	755.9	13	—10.6	74	W	.....	.....	6	2k	2n	W	W	0	0	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.59	751.6	30.10	764.5	1	—17.2	91	NW	3	1.3	.....	.....	8s	.....	N	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.58	751.3	29.63	752.6	20	— 6.7	71	NW	.....	.....	2	Haze	5ks	.....	.....	0	0	Fair	Dr. Gove.
St. John, N. B	29.46	748.3	29.63	752.6	22	— 5.6	86	W	7	3.1	.....	0	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.14	765.5	14	—10.0	85	NE	7	3.1	.....	5cs	0	.....	.....	0.02	0.5	Fair	K. Stewart.
Stayner, Ontario	29.27	743.4	30.11	764.8	16	— 8.9	85	N	10	4.5	.....	.....	10n	.....	N	0.35	8.9	Light snow	R. J. Cole.
Stratford, Ontario	28.73	729.7	30.10	764.5	20.0	— 6.7	93	NW	14	6.3	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A
*Sydney, C. B	29.34	745.2	29.38	746.2	30	— 1.1	87	W	8	3.6	.....	8c	2s	.....	.....	0.05	1.3	Fair	T. C. Hill.
*Toronto, Ontario	29.68	753.9	30.10	764.5	15	— 9.4	87	NW	7	3.1	.....	2c	2s	NW	W	0.03	0.8	Fair	Magnetic Observatory.
Windsor, N. S	29.48	748.8	29.57	751.1	28.0	— 2.2	88	W	6	2.7	.....	.....	10k	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	29.0	— 1.7	88	S	.....	.....	.....	4c	4s	.....	.....	0.01	0.3	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From —	CLOUDS. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.67	753.6	29.92	760.0	10	—12.2	79	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.48	748.8	30.19	766.8	6	—14.4	76	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	29.18	741.2	30.46	773.7	10	—12.2	68	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.97	761.2	29.99	761.7	15	— 9.4	65	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.19	766.8	30.38	771.6	22	— 5.6	58	N	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.07	763.8	30.12	765.0	18	— 7.8	68	NW	11	4 9	.....	8ck	Haze	N	Calm	0	0	Fair	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	15	— 9.4	65	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	27.82	706.6	29.68	753.9	9	—12.8	78	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	29.08	738.6	30.53	775.4	20	— 6.7	56	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.18	690.4	30.14	765 5	25	— 3.9	88	S	4	1.8	.....	.....	10n	.....	Calm	0.04	0.1	Light snow	
Boston, Massachusetts	29.65	753.1	29.81	757.2	15.5	— 9.2	57	NW	11	4.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Brackettville, Texas	29.39	746.5	30.50	774.7	31	— 0.6	79	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.78	731.0	29.87	758.7	2	—16.7	92	SE	17	7 6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.59	777.0	30.66	778.8	28	— 2.2	77	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.32	744.7	30.06	763.5	21	— 6.1	86	W	9	4.0	.....	0	5s	.....	Calm	0.08	2.0	Fair	
Burkes, Arizona	.....	.....	.....	.....	47	8.3	8	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.62	752.3	29.93	760.2	11.5	—11.4	70	N	10	4.5	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Cairo, Illinois	30.24	768 1	30.69	779.5	4	—15.6	74	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.29	642.4	30.09	764.3	38	3.3	63	N	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	.....	.....	.....	.....	29	— 1.7	56	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.47	697.7	30.04	763.0	35	1.7	80	E	4	1.8	.....	8k	0	SW	.....	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	23	— 5.0	73	NW	17	7.6	.....	5k	0	NW	.....	0	0	Fair	
Cape Henry, Virginia	30.10	764.5	30.12	765 0	23	— 5.0	47	NW	28	12.5	.....	5ck	5s	W	W	0	0	Cloudy	
Cape Lookout, N. Carolina	30.15	765.8	30.16	766.1	22	— 5.6	72	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.03	762.7	30.06	763.5	19	— 7.2	69	NW	30	13.4	.....	0	2s	.....	NW	0	0	Fair	
Castroville, Texas	29.82	757.4	30.60	777.2	22	— 5.6	72	S	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.24	768.1	30.31	769.9	28	— 2.2	22	N	10	4.5	.....	0	5s	.....	W	0	0	Fair	
Cheyenne, Wyoming	23.85	605.8	29.79	756.7	29	— 1.7	67	NW	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.61	752.1	30.40	772.1	0	—17.8	70	W	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Cincinnati, Ohio	29.76	755.9	30.49	774.4	12	—11.1	70	W	6	2.7	.....	.....	10n	.....	W	0.01	0.3	Light snow	
Cleveland, Ohio	29.49	749.0	30.29	769.4	10	—12.2	58	W	10	4.5	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Coleman City, Texas	28.69	728.7	30.55	776.0	18	— 7.8	68	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.44	747.8	30.37	771.4	10	—12.2	79	SW	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Concho, Texas	28.55	725.2	30.41	772.4	20	— 6 7	85	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Corsicana, Texas	30.20	767.1	30.74	780.8	6	—14.4	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.74	755.4	30.48	774.2	— 5	—20.6	82	SW	5	2.2	.....	4cs	Haze	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.09	637.3	.....	.....	24	— 4.4	74	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.35	745.5	30.66	778.8	10	—12.2	79	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.81	757.2	30.73	780.5	2	—16.7	73	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.64	626.8	29.86	758.4	20	— 6.7	41	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.40	746.7	30.41	772.4	— 6	—21.1	61	SW	2	0.9	.....	0	2s	.....	W	0	0	Clear	
Detroit, Michigan	29.51	749.5	30.24	768.1	17	— 8.3	83	W	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.56	700.0	30.10	764.5	6	—14.4	76	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.63	752.6	30.44	773.2	— 7	—21.7	59	Calm	0	0	.....	0	2s;fog	.....	Calm	0	0	Fair	
Duluth, Minnesota	29.31	744.5	30.04	763 0	11	—11.7	80	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Eagle Pass, Texas	29.82	757.4	30.64	778.2	29	— 1.7	78	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.58	751.3	29.65	753.1	20	— 6.7	77	NW	15	6.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	51	10.6	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.39	746.5	30.16	766.1	17	— 8.3	83	W	17	7.6	.....	.....	10n	.....	Calm	0.04	0.1	Light snow	
Escanaba, Michigan	29.50	749.3	30.22	767.6	8	—13.3	78	NW	17	7.6	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Florence, Arizona	28.46	722.9	30.06	763.5	52	11.1	60	NE	.....	.....	4	2c	5s	Calm	Calm	0	0	Fair	
Fort Craig, New Mexico	25.71	653.0	29.78	756.4	23	— 5.0	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.38	644.6	30.34	770.6	26	— 3.3	88	SW	1	0.4	.....	2k	0	W	.....	0.03	0.8	Foggy	
Fort Gibson, Indian Ter	30.04	763.0	30.67	779.0	— 4	—20.0	65	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.28	743.7	30.73	780.5	10	—12.2	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.18	715.8	30.30	769.6	21	— 6.1	71	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.32	744.7	30.62	777.7	— 5	—20.6	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.82	706.6	.....	.....	13	—10.6	81	S	.....	.....	1	.....	10s	Calm	Calm	0	0	Cloudy	
Fredericksburg, Texas	28.75	730.2	30.47	773.9	25	— 3.9	38	SW	1	0.4	.....	2ck	0	.....	.....	0	0	Fair	
Galveston, Texas	30.59	777.0	30.64	778.2	25	— 3.9	75	N	16	7.2	.....	2k	0	W	.....	0	0	Clear	
Graham, Texas	29.50	749.3	30.72	780.3	4	—15.6	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.56	750.8	30.25	768.3	24	— 4.4	74	SW	12	5 4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianapolis, Indiana	29.59	751.6	30.49	774.4	0	—17.8	53	W	4	1 8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Indianola, Texas	30.66	778 8	30.70	779.8	23	— 5.0	86	N	25	11.2	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.31	744.5	30.61	777.5	5	—15.0	75	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.26	768.6	30.28	769.1	26	— 3.3	63	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.80	756.9	30.52	775.2	— 2	—18.9	84	W	6	2.7	.....	0	0	.....	.....	0.44	11.2	Clear	
Key West, Florida	30.15	765.8	30.18	766.6	61	16.1	77	N	23	10 3	.....	.....	10s	.....	N	0	0	Clear	
Kittyhawk, North Carolina	30.11	764 8	30.14	765.5	20	— 6.7	70	NW	16	7.2	.....	2cs	0	W	.....	0.10	2.5	Cloudy	
Knoxville, Tennessee	29.45	748.0	30.60	777.2	6	—14.4	76	NE	1	0.4	.....	.....	10s	.....	N	0	0	Fair	
La Crosse, Wisconsin	29.48	748.8	30.32	770.1	— 3	—19.4	66	S	12	5.4	.....	0	2s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.27	667.2	30.42	772.6	27	— 2.8	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.20	767.1	30.59	777.0	26	— 3.3	75	NE	6	2.7	.....	10ck	0	W	.....	0	0	Cloudy	
Leavenworth, Kansas	29.56	750.8	30.56	776.2	—11	—23 9	76	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.79	756.7	30.14	765.5	49.8	9.9	79	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.90	759.4	30.53	775.4	9	—12.8	78	W	5	2.2	.....	0	Sm'e	.....	SW	0	0	Smoky	
Lynchburg, Virginia	29.50	749.3	30.25	768.3	17	— 8.3	54	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.25	742 9	30.37	771.4	0	—17.8	70	SW	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Marquette, Michigan	29.38	746.2	30.14	765.5	15	— 9.4	82	W	12	5.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Mason, Texas	28.89	733.8	30.83	784.3	15	— 9.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.31	769.9	30.68	779.3	9	—12.8	78	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.53	750.0	30.34	770.6	6	—14.4	77	W	7	3.1	.....	.....	5s	.....	Calm	Inap.	Inap.	Fair	
Mobile, Alabama	30.54	775.7	30.59	777.0	15	— 9.4	69	N	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Montgomery, Alabama	30.31	769.9	30.58	776.7	15	— 9.4	83	N	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Morgantown, West Virginia	29.22	742.2	30.38	771.6	11	—11.7	80	SW	9	4.0	.....	.....	10n	.....	SW	0.07	1.8	Light snow	
Mt. Washington, N. H.	23.20	589.3	29.56	750.8	6	—14.4	76	NW	3	1.3	.....	0	8ks	.....	NW	0	0	Clear	
Nashville, Tennessee	30.00	762.0	30.62	777.7	7	—13.9	77	W	2	0.9	.....	5cs	0	.....	.....	0	0	Fair	
New Haven, Connecticut	29.78	756.4	29.91	759.7	19	— 7.2	62	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.83	757.7	29.88	758.9	15	— 9.4	65	W	5	2.2	.....	0	1s;hz	.....	W; Calm	0	0	Clear	
New Orleans, Louisiana	30.52	775.2	30.59	777.0	24	— 4.4	74	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.78	756.4	29.83	757.7	18	— 7.8	63	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.77	756.1	29.96	761.0	18	— 7.8	68	W	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.08	764.0	30.14	765.5	17	— 8.3	51	NW	6	2.7	.....	10k	0	Calm	.....	0	0	Cloudy	
North Platte, Nebraska	27.01	686.0	29.85	758.2	— 1	—18.3	68	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Olympia, Washington Ter	30.21	767.3	30.35	770 9	34	1.1	79	E	3	1.3	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	29.05	737.9	30.29	769.4	0	—17.8	70	S	10	4.5		0	0			0	0	Clear	
Osvego, New York	29.68	753.9	30.02	762.5	23	— 5.0	93	SE	3	1.3			10s			0.05	1.3	Cloudy	
Pembina, Dakota	28.88	733.5	29.79	756.7	— 1	—18.3	100	S	18	8.0			10s		Calm	0	0	Cloudy	
Philadelphia, Pa	29.97	761.2	30.03	762.8	20	— 6.7	70	W	14	6.3		0	5ks		N	Inap.	Inap.	Fair	
Phœnix, Arizona	28.94	735.1	30.82	782.8	41	5.0	74	Calm			0	2ck	0	SW		0	0	Fair	
Pike's Peak, Colorado	17.68	449.1	29.89	759.2	12	—11.1	26	NW	24	10.7		0	0			0	0	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	24	— 4.4	74	SW	3	1.3		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.41	747.0	30.30	769.6	9	—12.8	78	W	5	2.2			10s		W	0.01	0.3	Cloudy	
Port Huron, Michigan	29.49	749.0	30.22	767.6	16	— 8.9	83	NW	10	4.5			10s		Calm	Inap.	Inap.	Cloudy	
Portland, Maine	29.72	754.9	29.78	756.4	19	— 7.2	69	NW	4	1.8		0	Haze			0	0	Clear	
Portland, Oregon	30.30	769.6	30.41	772.4	32.5	0.3	84	S	4	1.8		0	5ks		SW	0.02	0.5	Fair	
Prescott, Arizona	24.84	630.9	30.20	767.1	22	— 5.6	47	Calm	0	0		0	0			0	0	Clear	
Pilot Point, Texas	29.04	737.6	29.93	760.2	20	— 6.7	27	SE	14	6.3		0	0			0	0	Clear	
Punta Rassa, Florida	30.23	767.8	30.25	768.3	46	7.8	69	NW	36	16.1			10s		NW	0.02	0.5	Cloudy	
Red Bluff, California	29.86	758.4	30.24	768.1	38	3.3	81	NW	5	2.2		0	0			0	0	Clear	
Rio Grande City, Texas	30.49	774.4	30.74	780.8	30	— 1.1	78	N	8	3.6		0	0			Inap.	Inap.	Clear	
Rochester, New York	29.36	745.7	30.02	762.5	20	— 6.7	70	NW	8	3.6			10s		Calm	0.13	3.3	Cloudy	
Roseburg, Oregon	29.85	758.2	30.44	773.2	39.0	3.9	96	Calm	0	0			10n		Calm	0.06	1.5	Light rain	
Sacramento, California	30.14	765.5	30.23	767.8	35	1.7	94	Calm	0	0		1k	0	N		0	0	Clear	
St. Louis, Missouri	29.95	760.7	30.62	777.7	— 2	—18.9	67	W	9	4.0		0	0			0	0	Clear	
St. Marks, Florida	30.39	771.9	30.41	772.4	22	— 5.6	58	NW	12	5.4		0	0			Inap.	Inap.	Clear	
St. Paul, Minnesota	29.21	741.9	30.14	765.5	— 1	—18.3	84	SE	14	6.3			10s		Calm	0	0	Cloudy	
Salt Lake City, Utah	25.74	653.8	30.06	763.5	23	— 5.0	73	NW	3	1.3		0	0			0	0	Clear	
San Antonio, Texas	29.95	760.7	30.60	777.2	20	— 6.7	70	N	3	1.3		0	0			0	0	Clear	
San Diego, California	30.07	763.8	30.15	765.8	53.2	11.8	88	NE	4	1.8			10s		S	0	0	Cloudy	
Sandusky, Ohio	29.57	751.1	30.31	769.9	14	—10.0	82	W	11	4.9			10n		Calm	Inap.	Inap.	Light snow	
Sandy Hook, New Jersey	29.91	759.7	29.94	760.5	19	— 7.2	69	W	18	8.0		0	2s				0	Fair	
San Francisco, California	30.16	766.1	30.23	767.8	46	7.8	90	SE	2	0.9			1		Calm		0	Dense fog	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	15	— 9.4	65	N	5	2.2		0	0				0	Clear	
Savannah, Georgia	30.18	766.6	30.28	769.1	30	— 1.1	68	N	6	2.7		5cs	0	W		Inap.	Inap.	Fair	
Shreveport, Louisiana	30.43	772.9	30.69	779.5	7	—13.9	77	Calm	0	0			Fog		Calm	0	0	Foggy	
Silver City, New Mexico	24.41	620.0	30.90	784.8	26	— 3.3	75	W	3	1.3		0	0			0	0	Clear	
Smithville, North Carolina	30.21	767.3	30.25	768.3	20	— 6.7	70	NW	6	2.7		5ck	0	SW		0	0	Fair	
Springfield, Massachusetts	29.74	755.4	29.88	758.9	19	— 7.2	39	NW	4	1.8		0	0			0	0	Clear	
Stockton, Texas	27.31	693.7	30.31	769.9	23	— 5.0	86	N	4	1.8			10ks			0	0	Cloudy	
Thatcher's Island, Mass	29.73	755.1	29.79	756.7	19	— 7.2	69	NW	15	6.7		0	0			0	0	Clear	
Toledo, Ohio	29.55	750.6	30.29	769.4	15	— 9.4	82	SW	12	5.4			10n		Calm	0.01	0.3	Light snow	
Tucson, Arizona					44	6.7	59	S	2	0.9		8cs	0	SW		0	0	Cloudy	
Tybee Island, Georgia					30	— 1.1	78	NW	14	6.3		0	8ks		W	0	0	Cloudy	
Umatilla, Oregon	30.25	768.3	30.29	769.4	30	— 1.1	78	NW	14	6.3			10s		Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	29.86	758.4	30.40	772.1	16.0	— 8.9	83	SE	2	0.9			10s		Calm	0	0	Cloudy	
Uvalde, Texas					34	1.1	79	S			2		10s		S	0.06	1.5	Cloudy	
Vicksburg, Mississippi	29.66	753.4	30.58	776.7	27	— 2.8	77	Calm	0	0			10s		Calm	0	0	Cloudy	
Virginia City, Montana	30.42	772.7	30.71	780.0	14	—10.0	64	NE	3	1.3		0	0			0	0	Clear	
Visalia, California	24.10	612.1	29.58	751.3	28	— 2.2	77	Calm	0	0			10s		Calm	0	0	Cloudy	
Washington, D. C	29.85	758.2	30.24	768.1	35.6	1.9	89	E	2	0.9			10s		Calm	0	0	Cloudy	
Wickenburg, Arizona	30.03	762.8	30.16	766.1	15	— 9.4	75	NW	22	9.8		2cs	2s	NW	NW	0	0	Fair	
Wilmington, N. Carolina					40	4.4	73	NE			1		8ks		SE	0	0	Fair	
Winnemucca, Nevada	30.13	765.3	30.22	767.6	21	— 6.1	71	NW	8	3.6		4ck	0	W		0	0	Cloudy	
Wood's Holl, Mass	25.73	653.5	30.09	764.3	15	— 9.4	65	SW	10	4.5		2k	5s	SW	SW	0	0	Cloudy	
Yankton, Dakota	29.78	756.4	29.82	757.4	18	— 7.8	68	NW	18	8.0		0	0			0	0	Clear	
Yuma, Arizona	28.64	727.4	30.04	763.0	11	—11.7	69	SW	20	8.9		0	0			0	0	Clear	
	29.94	760.5	30.11	764.8	48	8.9	63	NE	4	1.8		0	0			0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28 73	729.7	30.36	771.1	— 5	—20.6	100												
Havana, Cuba, W. I	30.11	764.8	30.13	765.3	68	20.0	56	NW	10.8	4.8			10n		NW	0.10	2.5	Light rain	J. B. Gordon.
Kingston, Jamaica, W. I	30.21	767.3	30.22	767.6	75	23.9	90	Calm	0	0		2c	8n	Calm		0	0		Chas. Hasselbrin'k.
Medellin, Colombia, S. A																			James Gall.
Navassa, W. I																0.05	1 3	Cloudy	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.98	761.5	30.06	763.5	76	24.4		S	13.8	6.2						0	0	Fair	F. M Everett.
Santiago de Cuba, W. I	30.01	762.2	30.01	762.2	79	26.1	87	NE			3	5k	0	E					O. J. Hering.
St. Thomas, W. I																			Robert Mason.
York Factory, B. A																			G. O. Gellich.
	30.02	762.5	30.08	764.0	—26.0	—32.2		NW	2	0.9		1c	0	N		0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,576 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,450 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.15	765.8	48	8.9	40	4.4	97	NE	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Dense fog ...	
Navy Yard, Pensacola, Fla.	30.50	774.7	16	— 8.9	16	— 8.9	66	NW	5	2.2	.....	.....	0	.....	.....	Blank	Blank	.....	.....	Clear.	
Navy Yard, Portsmouth, N.H	29.80	756.9	56	13.3	14	—10.6	82	WNW	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital Yokohama, Japan *	30.19‡	766.8‡	.....	.....	34	1.1	71	Calm	.....	.....	0	.....	Sm'o	.....	Calm	0	0	.....	.....	Clear.....	
Alaska, Panama	30.05	763.3	80	26.7	77	25.0	86	NW	.....	.....	2	.....	8	.....	SE	0	0	.....	.....	D. clouds....	
Alliance, Smyrna, Turkey	29.95‡	760.7‡	.....	.....	64	17.8	52	W	.....	.....	2–3	.....	6	.....	N;W	.....	.....	.....	.....	Fair.....	
Ashuelot, N. 13° 43′, E. 100° 29′	30.06	763.5	75	23.9	74	23.3	68	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La	30.35	770.9	30	— 1.1	25	— 3.9	87	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.	29.84	757.9	21	— 6.1	19	— 7.2	100	WSW	11	4.9	.....	.....	0	.....	.....	0	0	.....	.....	Fair?.....	
Constitution, Havre, France	30.17‡	766.3‡	.....	.....	36	2.2	100	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	29.92‡	760.0‡	.....	.....	45	7.2	92	NNW	.....	.....	5	.....	8	.....	N	.....	.....	.....	.....	Rain-squalls	
Franklin, Norfolk, Va.	30.29	769.4	72	22.2	18	— 7.8	100	NW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Gettysburg, Villafranca, France	29.97‡	761.2‡	.....	.....	55	12.8	33	N	.....	.....	1	.....	10	.....	.....	0	0	Smooth	.....	Overcast.....	
Hartford, Montevideo, Uruguay	30.09	764.3	65	18.3	66	18.9	68	Calm	0	0	.....	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Lackawana, Gulf of Nicoya	29.77‡	756.1‡	.....	.....	80	26.7	78	N	.....	.....	3	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa	30.04‡	763.0†	.....	.....	18	— 7.8	84	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Yokohama, Japan *	30.24‡	768.1‡	.....	.....	35	1.7	80	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.	30 34†	770.6†	.....	.....	30	— 1.1	78	N	11	4.9	.....	.....	2	.....	N	.....	.....	.....	.....	Clear.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	67	—19.4	94	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.20	767.1	41	5.0	27	— 2.8	88	Calm	.....	.....	0	.....	8	.....	W	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	17	— 8.3	67	WNW	.....	.....	5	.....	8	.....	ESE	.....	.....	.....	.....	Cloudy.....	
Pensacola, Punta Arenas, Costa Rica	29.91‡	759.7‡	.....	.....	82	27.8	75	N	1.0	0.4	.....	.....	3	.....	.....	.....	.....	.....	.....	Clear.....	
Powhatan, Norfolk, Va.	30.11	764.8	23	— 5.0	23	— 5.0	100	WNW	11.0	4.9	.....	.....	10	.....	NNE	.....	.....	.....	.....	Cloudy.....	
Quinnebaug, Norfolk, Va.	30.15‡	765.8‡	.....	.....	19	— 7.2	.....	WNW	.....	.....	2	.....	8	.....	N	.....	.....	.....	.....	Fair.....	
Richmond, Brooklyn, N. Y.	29.94‡	760 5†	.....	.....	26	— 3.3	100	W	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas	30.50	774.7	42	5.6	30	— 1.1	89	NW	.....	.....	5	.....	2	.....	NW	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	30.10‡	764 5‡	.....	.....	16	— 8.9	.....	NW	.....	.....	3	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
St. Louis, League Island, Pa	29.98	761.5	52	4.1	18	— 7.8	.....	W	14	6.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear..	
Supply, N. 48° 19′, W. 7° 42′	30.06‡	763.5‡	.....	.....	54	12.2	100	WNW	.....	.....	3	.....	10	.....	WNW	.....	.....	Smooth	.....	Light rain...	
Trenton Villafranca, France *	30.02‡	762.5‡	.....	.....	51	10.6	65	NW	.....	.....	0–1	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Tuscarora, N. 13° 03′, W. 87° 43′	29.97‡	761.2‡	.....	.....	81	27.2	66	NNE	.....	.....	3	.....	2	.....	Calm	0.1	3.	Smooth	.....	Clear.....	
Vandalia, N. 32° 00′, W. 69° 06′	30.03‡	762.7‡	.....	.....	57	13.9	94	WNW	.....	.....	3	.....	10	.....	WNW	.....	.....	Mod'ate	W	Cloudy.....	
Wabash, Boston, Mass.	29.80‡	756.9‡	.....	.....	15	— 9.4	....	NW	7	3.1	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4. weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Granada																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.17	766 3				NE			1-4				NE				Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Offr.
S. S. Gaelic, N. 30° 37′, E. 132° 16′		30.17†	766.3†	58	14.4	??	Var.			3		c		Var.	0	Sm'e		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionaly by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 44', W. 67° 01'		29.60*	751.8*	39	3.9	64	WNW			6		9?		W	0	Light	W	Partly cld'y?	Captain Sargent.
S. S. Ohio, N. 52° 12', W. 6° 12'		30.00†	762.0†	47	8.3		SE			4		10		SE	Blank	Mod'ate	SE	Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 45° 0' W. 61° 19'		29.35*	745.5*	32	0.0		WNW			6		10s;k		WNW		Short	WNW	Overcast	Capt. W. Richardson.
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 7, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.38	717.6	61.5	16.4	76	NE	.....	.....	5	.....	1	.....	.....	0	0	Very fair.....	
Nemours	.....	.....	30.17	766.4	67.1	19.5	74	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Kesxuche.
Algiers	.....	.....	29.95	760.6	61.5	16.4	85	W	.....	.....	7	.....	10	.....	.....	Inap.	Inap.	Covered.....	Tourliere.
La Calle	.....	.....	29.91	759.7	58.5	14.7	74	WNW	.....	.....	4	.....	8	.....	.....	0.087	2.2	Very cloudy	Foufrede.
Tunis	.....	.....	30.01	762.3	55.0	12.8	56	NW	.....	.....	5	.....	5	.....	.....	0.110	2.8	Cloudy.....	Jacques.
Sfax	.....	.....	30.00	762.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gac.
Saida	.....	.....	30.09	764.2	59.4	15.2	53	NW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	29.89	759.1	46.8	8.2	69	NW	.....	.....	4	.....	10	.....	.....	0.063	1.6	Raining.....	Watrin.
Geriville	.....	.....	30.13	765.2	48 6	9.2	78	NNW	.....	.....	1	.....	5	.....	.....	0.039	1.0	Cloudy.....	Brugniaux.
Laghouat	.....	.....	30.00	762.1	61.9	16.6	58	SE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	Bertrand.
Biskra	.....	.....	30.01	762.2	67.5	19.7	51	NW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.48	748.9	30.06	763.6	32.0	0.0	72	NE	.....	.....	1	.....	8	.....	.....	Inap.	Inap.	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.35	745.4	30.16	766.0	27.0	— 2.8	100	NNE	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	Dr. Wierzbiski
Eperies	29.17	741.0	30.11	764.9	23.4	— 4.8	86	Calm	.....	.....	0	.....	6cs	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.77	730.7	30.08	764.1	31.1	— 0.5	81	S	.....	.....	2	.....	6	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.53	724.7	30.04	763.1	26.4	— 3.1	90	E	.....	.....	1	.....	10	.....	.....	0.510	12.95	.....	Prof. A. Gottschling.
Kremsmünster	28.63	727.3	30.05	763.2	29.5	— 1.4	96	NNE	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.2	30.11	764.8	27.9	— 2.3	90	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.84	758.0	29.96	761.0	40.3	4.6	50	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.57	751.0	30.06	763.5	29.7	— 1.3	92	W	.....	.....	1	.....	7	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.73	755.1	30.02	762.6	30.9	— 0.6	83	N	.....	.....	2	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.89	759.3	30.00	761.9	39.7	4.3	51	ENE	.....	.....	3	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.34	745.2	30.10	764.4	29.8	— 1.2	100	NNE	.....	.....	1	.....	10	.....	.....	0.031	0.8	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.94	760.5	30.04	763.0	36.0	2.2	.....	SSE	37	16.5	.....	.....	9	.....	.....	0	0	Squally	W. Boswell.
Ardrossan	29.87	758.7	29.89	759.2	36	2.2	.....	ESE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	29.73	755.1	38.2	3.4	.....	SE	18	8.0	.....	.....	10	.....	.....	.....	.....	Snow-sq'alls	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.87	758.7	34.1	1.2	.....	ESE	40	17.9	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton	.....	.....	29.96	761.0	31.2	— 0.4	.....	SE	36.0	16.1	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.62	752.3	30.01	762.2	32.3	0.2	.....	SE	.....	.....	6	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	30.04	763.0	30.07	763.8	81	27.2	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.04	763.0	31.0	— 0.6	.....	SE	.....	.....	2–3	.....	7	.....	.....	.....	.....	D. clouds	H. Todd. [C.
Cardington	.....	.....	30.06	763.5	31.4	— 0.3	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.94	760.5	30.08	764.0	32.2	0.1	.....	SE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Lt. W. G. Morris, R.E.
Dartmoor	28.19	716.0	29.71	754.6	31.0	— 0.6	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Hail & fog	Alexander Watt.
Donaghadee	29 76	755.9	29.80	756.9	39	3.9	.....	SSE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	30.02	762.5	30.04	763.0	32	0.0	.....	SE	.....	.....	5	.....	6	.....	.....	.....	.....	½ covered	J. Costello.
Falmouth, Observatory	29.43	747.5	29.67	753.6	42.7	5.9	.....	SSE	.....	.....	6	.....	10	.....	.....	.....	.....	Rain & fog	The Staff.
Fort Napier, (Natal)	2..65	702.3	29.96	761.0	71.0	21.7	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.7.	754.4	29.93	760.2	78	25.6	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.46	748.3	41	5.0	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.23	767.8	30.28	769.1	61.8	16.6	.....	W	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.72	754.9	29.93	760.2	35.8	2.1	.....	SSE	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Greenwich, Royal Obs'y	29.85	758.2	30.15	765.8	32	0.0	.....	ESE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	G. T. Watson.
Guernsey	29.56	750.8	29.78	756.4	36.5	2.5	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Helston	29.57	751.1	29.69	754.1	47	8.3	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S.
Holyhead	29.69	754.1	29.75	755.6	37	2.8	.....	E	.....	.....	3	.....	10	.....	.....	1.06	26.9	Raining	M. P. Moyle.
Jersey	29.54	750.3	29.85	758.2	35.5	1.9	.....	SE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Misty	John Tilston.
Kew, Observatory	29.99	761.7	30.02	762.5	33.5	0.8	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	J. Fisher.
Kingstown	29.66	753.4	29.69	754.1	38	3.3	.....	E	21	9.4	.....	.....	10	.....	.....	.....	.....	Raining	The Staff.
Leicester, Museum	29.76	755.9	30.03	762.8	30.6	— 0.8	.....	SSE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	George Mitchell.
Malta, (Mediterranean)	29.71	754.6	29.79	756.7	56	13.3	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Naira	29.79	756.7	29.89	759.2	35	1.7	.....	W	.....	.....	2	.....	3k	.....	.....	.....	.....	Squally	Sergt. Beckett, A. H. C.
Nassau, (Bahamas)	.....	.....	30.32	770.1	62.2	16.8	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	¼ covered	W. D. Penny.
Nottingham, Observatory	29.84	757.9	30.04	763.0	31.1	— 0.5	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Oscott, St. Mary's College	29.43	747.5	29.98	761.5	30.8	— 0.7	.....	SE	.....	.....	6	.....	10k; d	.....	SE	0	0	Overcast	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y	.....	.....	29.97	761.2	34	1.1	.....	E	.....	.....	5–6	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Plymouth	29.65	753.1	29.72	754.9	38.0	3.3	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Roche's Point	29.50	749.3	29.55	750.6	46	7.8	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Saint Ann's Head	29.50	749.3	29.67	753.6	36	2.2	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Sandwick Manse, (Orkneys)	.....	.....	29.93	760.2	36.1	2.3	.....	ESE	.....	.....	8	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Scutari, Cemetery, (Turkey)	.....	.....	29.93	760.2	44.0	6.7	.....	SE	50	22.4	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Sheffield	29.75	755.6	30.04	763.0	30.7	— 0.7	.....	NE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Overcast	Sergt. W. H. Lyne.
Silloth Rectory	29.91	759.7	29.94	760.5	37.2	2.9	81	E	.....	.....	5	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Stonyhurst, Observatory	29.56	750.8	29.97	761.2	32.0	0.0	.....	S	.....	.....	5	.....	10	.....	.....	0	0	Overcast	F. H. Redford.
Strathfield Turgiss	29.75	755.6	29.98	761.5	35.4	1.9	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	Rev. S. J. Perry.
Thurso	29.85	758.2	29.91	759.7	37	2.8	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	
Truro, Royal Institution	.....	.....	29.60	751.8	43	6.1	.....	SSE	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast	Rev. C. H. Grunau, F.M.S
Valencia, Observatory	29.46	748.3	29.48	748.8	51.8	11.0	.....	E	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	John Trotter.
Sub-Series.								SW	18	8.0	.....	.....	10	.....	.....	.....	.....	Drizzling	W. Newcombe.
Hobart Town, (Tasmania)	.....	.....	29.71	754.6	66.0	18.9	89	SE	.....	.....	2	.....	10kn	.....	.....	0	0	Thunder; l'ghtn'g	The Staff.
Leith, Restalrig Park	.....	.....	29.99	761.7	34.0	1.1	.....	SE	.....	.....	3	.....	5k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Mauritius, Observatory	29.73	755.1	29.92	760.0	80.7	27.1	59	E	14.0	6.3	.....	0	5	.....	ESE	0	0	Fine	Andrew Gibb.
Melbourne, Observatory	29.80	756.9	29.90	759.4	74.2	23.4	70	SW	2	0.9	.....	.....	10	.....	.....	0	0	Lightning	C. Meldrum.
Monach L't-house, (Hebrides)	.....	.....	29.55	750 6	39	3.9	.....	SSE	.....	.....	8	0	10	SSE	.....	0	0	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	66.6	19.2	88	NE	.....	.....	2	.....	10s	.....	NE	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.27	768.9	30.32	770.1	25.2	— 3.8	80	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	30.30	769.7	30.32	770.2	22.8	— 5.1	93	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	30.19	766.7	30.35	771.0	23.0	— 5.0	86	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	29.47	748.5	30.02	762 5	35.6	2	96	SW	.....	.....	1	.....	10	.....	.....	0.102	2.6	Snowing	Collignon, Director.
Amiens, Normal School	29.94	760.4	30.06	763.4	33.1	0.6	88	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.97	761.3	30.05	763.3	33.3	0.7	96	N	.....	.....	1	.....	10	.....	.....	.....	.....	Heavy snow	M. Girard, Director.
Bar-sur-Seine	29.48	748.9	30.08	764 1	32.7	0.4	88	SSE	.....	.....	1	.....	8cn	.....	.....	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.78	756.5	30.08	764.1	34.3	1.3	94	ENE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon, Normal School	29.13	739.9	30.08	763.9	30.2	— 1	.....	ESE	.....	.....	6	.....	0	.....	.....	0	0	Clear.	A. Carre, Director.
Bourg-en-Bresse, N. School	29.19	741.3	30.09	764.2	28.9	— 1.7	96	NE	.....	.....	2	.....	8kn	N	N	0	0	Very cloudy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.44	747.8	29.69	754.0	45.7	7.6	91	SSW	.....	.....	2	.....	10	.....	SSW	0.659	16.75	Rain & fog	M.de Rermaur, Director.
Carcassonne, Normal School	29.59	751.5	30.01	762.3	42.1	5.6	97	NE	.....	.....	1	.....	10	E	E	0.976	24.8	Covered	September, Director.
Caen, Normal School	29.91	759.7	29.98	761.6	34.5	1.4	70	SW	.....	.....	4	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.38	746.2	30.00	762.0	31.3	— 0.4	96	E	.....	.....	1	.....	10	.....	W	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.75	755.6	30.08	764.0	28.6	— 1.9	.....	NW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	29.58	725.9	30.01	762.2	31 3	— 0.4	92	SE	.....	.....	1	.....	10	.....	SW	0	0	Covered	Alluard, Director.
Commercy, Normal School	29.54	742.7	30.14	765.6	31 8	— 0.1	96	NW	.....	.....	1	.....	5kn	.....	NW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.88	733.5	30.02	762.5	37.8	3.2	80	W	.....	.....	1	.....	10	.....	SW	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	29.28	743.8	30.09	764.3	31.6	— 0.2	.....	ENE	.....	.....	1	.....	10m	.....	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.65	753.2	29.91	759.6	39.2	4.0	93	SE	.....	.....	1	.....	10	.....	.....	0.528	13.4	Raining	Mouillot, Director.
Le Mans, Normal School	29.67	753.5	29.99	761.7	32.9	0.5	96	SE	.....	.....	2	.....	10	.....	.....	0.04	1.	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.10	739.1	30.07	763.7	31.1	— 0.5	89	NW	.....	.....	1	.....	8	.....	NW	0	0	Foggy	Baudry, Director.
Lorient, Naval Observatory	29.72	754.9	29.82	757.4	38.5	3.6	97	E	.....	.....	3	.....	.....	.....	E	1.102	28.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.00	736.7	30.09	764.2	29.5	— 1.4	88	NE	.....	.....	1	.....	k	.....	W	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.87	758.7	30.08	764.1	36.7	2.6	74	N	.....	.....	1	.....	10	.....	N	0	0	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.98	634.5	.....	.....	31.6	— 0.2	100	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Snow & fog	Alluard, Director.
Rochefort, Naval Obs'y	29.86	758.5	29.89	759.3	45.0	7.2	100	SSE	.....	.....	1	.....	.....	SSE	SSE	0.47	12.	Foggy	Lt. Decante, Director.
Rouen, Normal School	29.94	760.5	30.03	762.7	36.5	2.5	56	SE	.....	.....	1	.....	10	.....	W	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port)	29.79	756.6	29.82	757.3	33.8	1.0	93	SSE	.....	.....	3	.....	10	SSE	SSE	0.652	16.55	Raining	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.87	758.8	30.04	763.0	34.2	1.2	66	E	.....	.....	1	.....	10	NW	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.97	735.9	30.07	763.7	46.4	8	72	SSW	.....	.....	4	.....	10	.....	.....	0.55	14.	Raining	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.38	746.3	30.20	767.1	23.0	— 5	78	SE	.....	.....	1	.....	.....	.....	.....	0.528	13.4	Misty	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.6	29.97	761.3	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.06	763.6	31.6	— 0.2	81	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.79	629.6	30.10	764.6	41.4	5.2	75	WNW	7.4	3.3	.....	.....	6	.....	SW	0.331	8.4	.....	M. Cave.
Nice	.....	.....	30.03	762.7	43.2	6.2	73	NNW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.76	755.9	.....	.....	34.0	1.1	80	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Marié Davy, Director
Perpignan	29.93	760.1	30.03	762.8	44.6	7.0	88	E	3.8	1.7	.....	.....	10	.....	.....	0.957	24.3	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.44	569.6	.....	.....	20.7	— 6.3	.....	N	.....	.....	4–5	.....	10	.....	.....	2.212	56.2	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.27	743.5	29.99	761.8	51.8	11.0	93	W	.....	.....	3	.....	10	.....	.....	0.571	14.5	.....	M. Mercadier Julier.
Tours	29.67	753.5	29.86	758.5	33.4	0.8	94	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	C. Marquet.
Versailles Observatory	.....	.....	30.03	762.7	33 8	1.0	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Dr. A. Bérigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.17	766.3	30.19	766.9	37.6	3.1	93	WNW	2.9	1.3	.....	8ck	.....	.....	.....	0	0	Cloudy	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,386 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.18	741.2	30.02	762.6	29.8	— 1.2	92	E			4		10			0.016	0.4	Snowing	Prof. Dr. Hoh.
Berlin	30.04	762.9	30.22	767.6	23.7	— 4.6	82	NE			1		0			0.311	7.9		Prof. Arndt.
Breslau	29.63	752.6	30.17	766.2	25.7	— 3.5	78	E			2		4			0.002	0.04		Royal University Obs'y
Carlsruhe	29.59	751.6	30.04	763.0	29.5	— 1.4	96	SW			1		10			0.047	1.2		Albert Senz.
Cassel	29.47	748.5	30.08	764.0	26.1	— 3.3	84	NNE			3		7	NE		0.029	0.72	Snowing	Dr. H. Möhl.
Crefeld	29.98	761.6	30.15	765.7	26.6	— 3.0	74	NE			4		8			0	0		Director Lose.
Emden					25.5	— 3.6	84	NE			2		0			0	0		Prof. Prestel.
Frankfort on the Main	29.72	754.9	30.10	764.5	28.4	— 2.0		NNE			3		5			0.012	0.3		Physical Society.
Friedrichshafen	28.56	725.5	30.08	764.0	26.6	— 3.0	80	N			3		6	NNE		0	0		M. Wilhelm.
Hamburg	30.19	766.8	30.26	768.7	25.5	— 3.6	95	NE			3		8k			0.043	1.1	Clear	Captain F. Hegemann
Kiel	30.27	768.8	30.28	769.2	28.8	— 1.8	79	NE			4		4			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.15	765.7	30.24	768.0	21.0	— 6.1	90	NE			3		2			0.280	7.1	Snowing	Prof. E. Luther.
Köslin			30.20	767.1	15.8	— 9.0		S			2		0			0	0		H. Müller.
Leipsic, Observatory	29.68	753.8	30.12	765.1	28.9	— 1.7	94	NNE			2		10			0.193	4.9		Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.20	767.1	30.25	768.3	21.0	— 6.1	82	N			1		1cs						Skalweit.
Neufahrwasser	30.24	768.2	30.26	768.6	25.9	— 3.4	76	Calm			0		10			0.035	0.9		A. Lothes.
Posen	29.95	760.6	30.26	768.5	24.1	— 4.4	77	NNW			1		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.52	749.7	30.10	764.5	30.9	— 0.6	90	SSW			1		10	NW		0.002	0.04	Snowing	Imp. University Observatory.
Stuttgart	29.06	738.2	30.06	763.5	26.6	— 3.0	85	NE			1		10			0.118	3.0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.50	724.0	30.10	764.5	28.2	— 2.1	90	Calm	0	0			10			0.043	1.1		Dr. Van Bebber.
Wustrow, Naval School	30.24	766.1	30.26	768.7	29.8	— 1.2	98	E			2		7cs			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.23	742.5	29.63	752.5	55.9	13.3		S			2.5							Light rain	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.5	29.95	760.8	74.2	23.4	51	NW				1				0	0	D. clouds	
Deesa	29.51	749.4	30.00	761.9	71.7	22.1	27	Calm				0				0	0	Blue sky	
Bombay	29.91	759.6	29.94	760.6	76.6	24.8	71	NNW	20.0	8.9		0				0	0	Blue sky	
Poona	27.92	709.1	29.92	760.0	79.6	26.4		ESE				0				0	0	Blue sky	
Lahore	29.21	741.9	30.00	761.9	55.6	13.1	51	Calm	0.4	0.2		3				0	0	Blue sky	
Belgaum	27.40	695.8	29.93	760.3	77.4	25.2	53	Calm	0	0		1				0	0	D. clouds	
Roorkee	29.04	737.7	29.98	761.5	61.8	16.6	58	Calm	0.8	0.4		8				0	0	Gloomy	
Agra	29.42	747.2	30.01	762.1	63.8	17.7	43	N				0				0	0		
Nagpur	28.90	734.0	29.96	761.0	74.2	23.4	33	Calm	1.3	0.6		0				0	0	Blue sky	
Lucknow	29.61	752.0	30.00	762.1	56.4	13.6	32	NNE	2.2	1.0		6		NNE		0	0	D. clouds	
Allahabad	29.67	753.7	30.00	761.9	60.9	16.1	67	Calm	0.3	0.1		0				0	0	Blue sky	
Patna	29.80	757.0	30.00	761.9	62.6	17.0	64	Calm	0.4	0.2		4				0	0	D. clouds	
Hazaribagh	27.94	709.5	30.01	762.3	63.8	17.7	34	NW	3.8	1.7		0				0	0	Blue sky	
Cuttack	29.92	759.9	30.00	762.1	69.9	21.1	43	Calm	0.7	0.3		1				0	0	Blue sky	
Calcutta (Alipore)	29.98	761.4	30.00	762.0	67.5	19.7	79	WSW	2.0	0.9		0				0	0	Blue sky	
Goalpara					67.0	19.4	66	E	1.6	0.7		0				0	0	Blue sky	
Chittagong	29.92	759.9	30.01	762.3	70.8	21.6	85	W	2.2	1.0		0				0	0	Dust-haze	
Sibsagar	29.72	754.9	30.07	763.8	63.9	17.7	84	NE	2.6	1.2		10		SW	SW	0.12	3.0	D. clouds	
Jubbulpore	28.58	725.8	29.96	760.9	75.8	24.3	29	Calm	2.3	1.0		0				0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation. Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,842.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.6 m.; Hazaribagh, 2,016 ft., or 614.8 m.; Jubbulpore, 1,387 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	751.9	30.03	762.7	38.3	3.5	46	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.91	759.8	30.03	762.7	38.1	3.4	49	E	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.51	749.6	30.0	763.4	26.4	— 3.1	98	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.08	738.5	30.02	762.5	32.4	0.2	44	SSE	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.03	711.9	30.00	762.0	31.7	— 0.2	49	NNE	.....	.....	2	.....	7	NW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.81	757.2	30.01	762.2	43.0	6.1	36	N	3.8	1.7	.....	.....	4	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.73	755.1	29.99	761.8	41.1	5.1	41	NE	.....	.....	4	.....	1	NE	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.93	760.1	30.01	762.3	42.3	5.7	40	ENE	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.93	760.1	29.98	761.4	36.3	2.4	77	N	12.4	5.6	.....	.....	10	N	.....	0.441	11.2	.....	Prof. Luigi Guidi.
Rome	29.69	754.0	29.87	758.6	45.1	7.3	48	N	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.33	745.0	29.59	751.5	41.2	5.1	76	NNE	28.0	12.5	.....	.....	9	N	.....	1.134	28.8	.....	Prof. C. De Giorgi.
Cagliari	29.75	755.7	29.95	760.6	49.3	9.6	49	NW	.....	.....	2	.....	5	N	.....	0.244	6.2	.....	Prof. A. Pacinotti.
Cosenza	28.83	732.3	29.73	755.2	44.6	7.0	77	NW	1.3	0.6	.....	.....	3	.....	.....	0.787	20.0	.....	Prof. D. Conti.
Palermo	29.60	751.9	29.86	758.4	49.3	9.6	49	NW	10.6	4.7	.....	.....	9	NW	.....	0.457	11.6	.....	Prof. G. Cacciatore.
Syracuse	29.63	752.7	29.71	754.6	52.2	11.2	49	NW	15.0	6.7	.....	.....	4	WNW	.....	0.122	3.1	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.30	744.1	29.85	758.2	44.5	6.8	46	ESE	1.8	0.8	.....	.....	2	.....	.....	0.240	6.1	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.25	768.3	30.28	769.1	34.0	1.1	82	N	7.0	3.1	.....	.....	9ck;c	.....	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.04	763.0	30.25	768.3	41.3	5.2	82	E	1.3	0.6	.....	.....	10ck;s;	cs] W	W	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.12	765.0	30.19	766.8	32.0	0.0	85	SE	2.3	1.1	.....	7cs,ck;c	0	SE	.....	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.16	639.1	30.34	770.5	45.5	7.5	55	SW	.....	.....	1	8cs	0	SW	.....	0	0	Misty	Prof. L. Perez.
Leon	24.52	623.0	30.20	767.0	53.4	11.9	77	NNW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.15	588.0	30.30	769.7	46.8	8.2	77	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	48.6	9.2	59	WSW	.....	.....	1	3c	2s	SW	SW	0	0	½ clouded	M. V. de Leon, M. E.
Tlacotalpam	30.25	768.3	30.26	768.6	59.9	15.5	93	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.21	615.1	30.32	770.1	40.0	4.4	50	NW	.....	.....	.....	5	0	N	.....	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz	30.21	767.4	30.24	768.0	59.9	15.5	78	NW	0	0	.....	.....	3s	.....	.....	0	0	Misty	Prof. J. Rossell.
Zacatecas	22.67	575.7	.....	.....	51.8	11	52	SW	.....	.....	4	9	0	SW	.....	0	0	½ clouded	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute	23.45	595.5	30.22	767.5	39.2	4.0	69	NNE	1.8	0.8	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.47	723.2	30.14	765.6	73.0	22.8	73	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Pando, C. E.
San Juan E. Michapam	30.21	767.5	30.35	770.8	61.5	16.4	.....	Calm	.....	.....	0	5n	3n	.....	.....	0.047	1.2	Misty	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2291.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS SERIES.

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

Flushing	30.15	765.9	30.15	765.9	30.2	— 1.0	.....	E	.....	.....	.....	.....	.....	.....	.....	0.047	1.2	.....	
Groningen	30.20	767.1	30.24	768.5	26.4	— 3.3	.....	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.23	767.7	30.23	767.7	28.2	— 2.1	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.16	766.1	30.16	766.1	27.0	— 2.8	83	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.15	765.7	30.19	766.9	27.5	— 2.5	78	ENE	.....	.....	4	.....	2	.....	.....	0	0	Slightly cl'dy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.30	769.5	30.35	770.9	19.4	— 7.0	62	ESE	3.6	1.6	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.10	764.6	30.14	765.6	37.4	3.0	83	WSW	22	10	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.23	767 8	30.39	772.0	7.2	—13.8	92	ENE	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.88	758.9	29.92	760.0	28 0	— 2.2	87	Calm	0	0	.....	.....	10	.....	.....	0.165	4.2	Light snow.	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.09	764.2	30.28	769.1	62.6	17.0	92	WSW	10 5	4.7	.....	.....	5	.....	.....	0.217	5.5	.....	Dr. J. A. Sampaio.
Campo Major	29.28	743.8	30.33	770.3	51.8	11.0	93	W	6.9	3.1	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.41	772.3	30.49	774.5	66 7	19.3	64	SW	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.99	761.8	30.35	771.0	57.4	14.1	86	WNW	7.4	3.3	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.29	769.4	30.36	771.2	63.0	17.2	96	SW	26.2	11.7	.....	.....	10	.....	.....	0	0	.....	

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

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'.
Rio Lima. Capt. da Silva Costa.				
Porto Praya, Cape Verd Ids	4	ESE	D. clouds.....	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Quanza, [lantic.				
St. Thomas Id., Gulf of Guinea, S. At-				
Sá da Bandeira,	2	SSE	.....	A. J. de Mattos, Com'd't.
Saint Paul de Loanda				
Sado	0	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo,	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Macao, China	1	.....	D. clouds.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.73	755.1	30.18	766.5	25.5	— 3.6	82	NW	2	1	.....	.....	8ck	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Wilna	29.72	754.9	30.17	766.3	22.3	— 5.4	89	Ca m	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
Dorpat	29.83	757.6	30.09	764.3	16.7	— 8.5	88	WSW	9	4	.....	.....	8n;ks	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauen.
St. Petersburg	29.93	760.3	29.95	760.7	15.1	— 9.4	97	SW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.43	747 5	30.11	764.7	24.4	— 4.2	81	WSW	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.19	766.7	30.21	767 2	35.2	1.8	71	N	4	2	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.37	746.0	29.96	761.0	16.2	— 8.8	85	S	7	3	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.86	758.5	30.08	764 0	25.2	— 3.8	89	NW	4	2	.....	.....	8	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	29.69	754.1	29.71	754.6	10 9	—11.7	93	W	4	2	.....	.....	6k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.65	727 8	30.09	764.3	50.4	10.2	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.98	761.4	29.89	759.3	46.0	7.8	78	S	4	2	.....	.....	2cs,s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.31	744.5	29.82	757.4	11.7	—11.3	82	NNW	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Cand. Fatjanow.
Kasan	29.59	751 5	29.88	758.9	12.6	—10.8	97	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light snow..	Physical Cabinet.
Ekaterinburg	28.71	729.2	29.71	754.6	25.9	— 3.4	82	WSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.92	760.0	30.16	766.1	43.2	6.2	82	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	
Tashkend	28.57	725.6	30.34	770.7	41.4	5.2	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.82	757.4	30.39	771.9	16.5	— 8.6	92	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.17	766.3	30.50	774.6	5.2	—14.9	87	ESE	11	5	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.09	764.3	30.23	767.9	32.2	0.1	40	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.06	763.6	30.15	765.8	—26.7	—32.6	.....	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness wtihout distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47, E. 48° 34.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.89	759.2	30.00	762.0	48.6	9.2	86	E	1.9	0.83	.....	.....	10	.....	.....	0.213	5.4	Covered.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.00	761.9	30.06	763.4	58.6	14.8	88	NW	3.9	1.74	.....	.....	10	.....	.....	0.764	19.4	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.6	.....	.....	51.1	10.6	82	SW	6.2	2.76	.....	.....	4	.....	.....	0.071	1.8	.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	708 9	.....	.....	59.2	15.1	70	SW	15.6	6.95	.....	0	7	.....	.....	0	0	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.98	761.5	30.13	765.3	71.8	22.1	48	ENE	1.2	0.53	.....	6	4	E	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.19	741.4	30.09	764.3	54.0	12.2	98	SW	11.2	5.0	.....	.....	10	.....	.....	0.063	1.6	Drizzling.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.24	768.0	30.31	769.8	58.3	14.6	79	ENE	1.1	0.5	.....	.....	10k;ks	.....	ENE	Inap.	Inap.	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.6	29.91	759.9	72.0	22.3	85	NNE	0	0	.....	0	1	.....	E	0.01	0.2	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	769.2	30.39	771.8	57.7	14.3	85	NW	5.1	2.3	.....	0	10	.....	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.03	762.8	30.12	765.1	76.3	24.6	94	Calm	0	0	.....	5kn	6kn	NE	NE	0.246	6.25	Overcast.....	Leonardo de Tejeda, Ch'f Eng'e

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.6 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.88	758.9	29.92	759.9	20.5	— 6.4	.....	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.95	760.7	30.00	762.0	22.6	— 5.2	96	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	
Hernosand	30.04	763.0	30.09	764.3	29.5	— 1.4	68	WNW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Stockholm	29.97	761.2	30.15	765.7	17.6	— 8.0	83	NW	.....	.....	4	.....	6	.....	.....	0.020	0.5	.....	
Wisby	30.12	765.1	30.18	766.6	28.0	— 2.2	79	NW	.....	.....	7	.....	3	.....	.....	0.012	0.3	.....	
Sub-Series.																			
Upsala	30.08	763.9	30.15	765.8	14.9	— 9.5	74	WSW	4.5	2.0	.....	.....	8	NE	N	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.68	725.9	30.09	764.2	28.8	— 1.8	80	NNE	.....	.....	1	.....	9	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.37	720.7	30.11	764.8	26.2	— 3.2	73	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer, —3.2 cent.; Relative Humidity, —0 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.98	761.5	43.3	6.3	70	ENE	27	12.0	.....	.....	10	.....	SW	0.173	4.4	Raining	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.43	747.4	49.1	9.5	.....	E	.....	.....	3	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.92	760.0	30.04	763.0	66.0	18.9	58	N	.....	.....	2	.....	3c	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	30.04	763.0	30.10	764.5	26.2	— 3.2	90	NE	2	0.9	.....	.....	9n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.90	759.4	30.24	768.1	6	—14.4	.....	Calm	0	0	.....	.....	8s	.....	NW	0	0	Cloudy.....	W. R. Bigg.
*Chatham, N B	30.03	762.8	30.10	764.5	27	— 2.8	94	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.98	761.5	30.03	762.8	29	— 1.7	94	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.02	762.5	30.24	768.1	— 8.7	—22.6	100	W	.....	.....	1	2cs	1s	.....	.....	0	0	Clear.....	James Smith, M. A
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.56	776.2	30.60	777.2	31.0	— 0.6	89	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	W. H. Bevis.
*Father Point, Quebec	30.07	763 8	30.09	764.3	18	— 7.8	77	SW	20	8.9	.....	.....	10n	.....	S	.....	.....	Light snow.	J. McWilliams.
Fredericton, N. B	30.06	763.5	30.13	765.3	24.6	— 4.1	92	NW	8	3.6	.....	.....	10s	.....	.....	0	0	Overcast....	Prof. Harrison.
*Fort Garry Manitoba	28.99	736.3	29.88	758.9	10	—12.2	96	N	16	7.2	.....	6k	4n	N	N	0.46	11.7	Cloudy.....	James Stewart.
Granton, Ontario	29.00	736.6	30.20	767.1	14	—10.0	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Gloomy.....	James Grant.
*Halifax, N. S	29.82	757.4	29.96	761.0	30	— 1.1	95	N	9	4.0	.....	.....	10n	.....	N	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.88	758.9	30.28	769.1	15.7	— 9.1	95	SW	.....	.....	3	8ck	0	SW	.....	0	0	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.99	761.7	30.02	762.5	30	— 1.1	100	N	.....	.....	1	.....	10	.....	.....	0	0	Overcast....	E. Weedon.
*Kingston, Ontario	29.88	758 9	30.24	768.1	16	— 8.9	98	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.94	760.5	29.98	761.5	33.2	0.7	90	E	6	2.7	.....	.....	10n	.....	.....	0.05	1.3	Overcast....	C. H. Rigby.
*Montreal, Quebec	29.64	752.8	29.68	753.9	17.2	— 8.2	97	S	.....	.....	3	.....	10n	.....	.....	Inap.	Inap	Snowing....	C. H. McLeod, C. E
Moose Factory, Ontario	30.04	763.0	30.26	768.6	6	—14.4	81	W	12	5.4	.....	0	2ks	.....	.....	0	0	Clear.....	J. R. Nason.
*Parry Sound, Ontario	29.34	745.2	30.08	764.0	18	— 7.8	92	S	18	8.0	.....	5k	5ks	.....	.....	0.03	0.8	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.20	767.1	19.4	— 7.6	79	SW	.....	.....	.....	.....	10n	.....	.....	.....	.....	Overcast....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.53	750.0	30.28	769.1	15	— 9.4	98	S	17	7.6	.....	10k	0	SW	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	29.91	759.7	29.96	761.0	27.9	— 2.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.57	751 1	30.27	768.8	18	— 7.8	93	SW	.....	.....	.....	.....	10n	.....	SW	Inap.	Inap.	Cloudy.....	M. Payne.
*Quebec, Quebec	29.87	758.7	30.22	767.6	10	—12.2	90	W	.....	.....	1	.....	10n	.....	W	0.09	2.3	Light snow..	Capt. Ashe, R. N
*Rockliffe, Ontario	29.64	752.8	30.15	765.8	3	—16.1	97	SE	4	1.8	.....	.....	10n	.....	.....	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.01	762.2	30.07	763.8	25	— 3.9	87	N	.....	.....	2	.....	10n	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	29.92	760.0	30.09	764.3	28	— 2.2	100	NW	8	3.6	.....	0	7k	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.34	745.2	30.12	765.0	14	—10 0	86	S	19	8.5	.....	5cs	5ks	.....	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.32	744.7	30.16	766.1	16	— 8.9	85	SE	9	4.0	.....	5k	0	W	.....	Inap.	Inap	Fair	R. J. Cole.
Stratford, Ontario	28.80	731.5	30.19	766.8	14.0	—10.0	95	SW	13	5.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A
*Sydney, C. B	29.94	760.5	29.98	761.5	30	— 1.1	91	NE	2	0.9	.....	5ck	5n	E	E	0.02	0.5	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.83	757.7	30.25	768.3	19	— 7.2	91	SW	19	8.5	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	Magnetic Observatory.
Windsor, N. S	29.88	758.9	29.98	761.5	28.5	— 1.9	88	N	4	1.8	.....	.....	10k	.....	.....	0	0	Overcast.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	30.0	— 1.1	89	NE	.....	.....	.....	Sm'e	Sm'e	.....	.....	Blank	Blank	Unsettled....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.07	763.8	30.32	770.1	7	—13.9	89	N	8	3.6	.....	0	8s	.....	NW	0	0	Fair	
Alpena, Michigan	29.29	744.0	29.98	761.5	14	—10.6	82	SW	16	7.2	.....	.....	8s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.24	742.7	30.49	774.4	22	— 5.6	72	NW	2	0.9	.....	2c	Sm'e	Calm	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.37	771.4	30.38	771.6	15	— 9.4	82	NW	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	
Augusta, Georgia	30.37	771.4	30.57	776.5	18	— 7.8	84	Calm	0	0	.....	2cs	Haze	Calm	.....	0	0	Hazy	
Baltimore, Maryland	30.42	772.6	30.48	774.2	16	— 8.9	83	W	1	0.4	.....	2ck	Fg;smk	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.34	770.6	30.37	771.4	17	— 8.3	67	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.09	713.5	29.94	760.5	18	— 7.8	81	NW	18	8 0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Boerne, Texas	28.55	725.2	29 91	759.7	38	3 3	100	SE	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Boise City, Idaho	27.40	696.0	30.36	771.1	23	— 5.0	73	W	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear	
Boston, Massachusetts	30.08	764.0	30.25	768.3	9 5	—12.7	68	NW	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.87	733.3	29.93	760.2	40	4.4	73	E	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Breckenridge, Minnesota	28.83	732.3	29.89	759.2	14	—10.0	91	NW	10	4.5	.....	5cs	0	Calm	.....	Inap.	Inap.	Fair	
Brownsville, Texas	30.12	765.0	30.19	766.8	39	3.9	91	E	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Buffalo, New York	29.52	749.8	30.29	769 4	14	—10 0	82	S	10	4.5	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Burkes, Arizona	.....	.....	.....	.....	49	9.4	18	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Burlington, Vermont	29.99	761.7	30.31	769.9	9.5	—12.5	79	S	3	1.3	.....	0	5s	.....	W	0	0	Fair	
Cairo, Illinois	29.91	759.7	30.34	770.6	24	— 4.4	74	S	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	24.97	634.2	29.77	756.1	40	4.4	82	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	42	5.6	91	S	.....	.....	2	.....	10n	.....	S	0.04	1.0	Light rain	
Campo, California	27.35	694.7	29.92	760.0	42	5.6	91	SW	16	7.2	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	
Cape Hatteras, N. Carolina	30.48	774.2	30.49	774.4	23	— 5.0	73	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.44	773.2	30.46	773.7	26	— 3.3	40	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.49	774.4	30.50	774.7	21	— 6.1	71	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.39	771.9	30.42	772.6	20	— 6.7	70	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.28	743.7	30.02	762.5	35	1.7	90	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Charleston, South Carolina	30.49	774.4	30.56	776.2	29	— 1.7	34	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.93	607.8	29 87	758.7	12	—11.1	100	N	20	8.9	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Chicago, Illinois	29.32	744.7	30.06	763.5	16	— 8.9	83	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Cincinnati, Ohio	29.70	754 4	30.43	772.9	9	—12.8	67	SE	6	2.7	.....	0	Sm'e	.....	SE	Inap	Inap.	Smoky	
Cleveland, Ohio	29.54	750.3	30.34	770.6	13	—10.6	62	S	15	6.7	.....	5k	5s	SW	Calm	0.01	0.3	Cloudy	
Coleman City, Texas	28.14	714.7	29 88	758.9	30	— 1.1	89	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.46	748.3	30.40	772.1	9	—12.8	59	S	4	1.8	.....	5ck	Fog	Calm	Calm	0.01	0.3	Fair	
Concho, Texas	27.98	710.7	29.72	754.9	33	0.6	79	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Corsicana, Texas	29.65	753.1	30.15	765.8	30	— 1.1	89	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.32	744.7	30.00	762.0	17	— 8.3	83	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.37	644.4	.....	.....	15	— 9 4	82	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.82	732.0	30.05	763.3	31	— 0.6	89	S	18	8.0	.....	.....	10s	.....	Calm	0.43	10.9	Cloudy	
Denison, Texas	29.28	743.7	30.11	764.8	32	0 0	89	S	12	5.4	.....	.....	10s	.....	S	0	0	Threatening	
Denver, Colorado	24.72	627.9	29.94	760.5	19	— 7.2	85	NW	16	7.2	.....	.....	10n	.....	Calm	0.09	2.3	Light snow	
Des Moines, Iowa	29.00	736.6	29 94	760 5	19	— 7.2	85	SW	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Detroit, Michigan	29.47	748.5	30.20	767.1	13	—10.6	81	S	14	6.3	.....	5ck	5s	W	W	Inap.	Inap.	Cloudy	
Dodge City, Kansas	27.25	692.1	29.69	754.1	14	—10.0	82	N	26	11.6	.....	.....	10s	.....	N	0	0	Cloudy	
Dubuque, Iowa	29.21	741.9	29.95	760.7	16	— 8.9	66	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.06	738.1	29.76	755.9	20	— 6.7	85	SW	6	2.7	.....	.....	10s	.....	SW	0.13	3.3	Cloudy	
Eagle Pass, Texas	29.26	743.2	30.03	762.8	37.0	2.8	71	S	6	2.7	.....	5cs	0s	Calm	.....	0	0	Fair	
Eastport, Maine	30.01	762.2	30.08	764.0	26	— 3.3	88	NW	15	6.7	.....	.....	10s	.....	N	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	52	11.1	79	SE	12	5.4	.....	.....	10n	.....	SE	0.26	6.6	Light rain	
Erie, Pennsylvania	29.53	750.0	30.31	769.9	15	— 9.4	82	S	14	6.3	.....	10cs	0	W	.....	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.16	740.7	29.86	758 4	15	— 9.4	82	SW	12	5.4	.....	.....	10s	SW	.....	0	0	Cloudy	
Florence, Arizona	28 33	719.6	29.93	760.2	49	9.4	85	SW	.....	.....	4	.....	10n	.....	S	0.04	1.0	Light rain	
Fort Craig, New Mexico	25.33	643.4	29.39	746.5	39	3.9	91	S	11	4.9	.....	10k	0	W	.....	0	0	Cloudy	
Fort Davis, Texas	24.95	633.7	29.91	759.7	45	7.2	67	SW	10	4.5	.....	5k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.43	747.5	29.99	761 7	29	— 1.7	80	S	18	8.0	.....	.....	10ks	.....	S	0	0	Threatening	
Fort Griffin, Texas	28.66	728.0	29 97	761.2	37	2.8	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.64	702.0	29.62	752.3	34	1.1	79	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.85	758.2	33	0.6	100	S	24	10.7	.....	.....	10n	.....	S	0.03	0.8	Light rain	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.83	757.7	38	3.3	91	S	19	8.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Galveston, Texas	30.16	766.1	30.21	767.3	49	9.4	85	SE	12	5.4	.....	.....	10s	.....	SE	0.10	2.5	Cloudy	
Graham, Texas	28.88	733.5	29.97	761.2	35	1.7	90	S	8	3.6	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Grand Haven, Michigan	29.35	745.5	30.04	763.0	22	— 5.6	72	SW	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.40	746.7	30.26	768.6	11	—11.7	60	S	10	4.5	.....	0	Sm'e	.....	.....	0	0	Clear	
Indianola, Texas	30.13	765.3	30.16	766.1	48	8 9	93	S	8	3.6	.....	.....	10s	.....	S	Inap.	Inap.	Threatening	
Jacksboro, Texas	28.76	730.5	29.96	761.0	28	— 2.2	88	NE	12	5.4	.....	.....	10s	.....	Calm	.....	.....	Light sleet	
Jacksonville, Florida	30.47	774.4	30.51	774 9	27	— 2.8	64	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.31	744.5	29.97	761.2	22	— 5.6	86	S	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Key West, Florida	30.33	770.4	30.36	771.1	53	11.7	80	NE	16	7.2	.....	0	1s	.....	Calm	0	0	Clear	
Kittyhawk North Carolina	30.48	774.2	30.50	774 7	19	— 7.2	54	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.42	747.2	30.55	776.0	10	—12.2	69	Calm	0	0	.....	.....	Haze	.....	Calm	Inap.	Inap.	Cloudy	
La Crosse, Wisconsin	29.08	738.6	29 86	758.4	21	— 6.1	85	S	8	3.6	.....	.....	10n	.....	S	Inap	Inap.	Light snow	
La Mesilla, New Mexico	25.87	657.1	30.02	762.5	41	5.0	100	Calm	0	0	.....	.....	10n	.....	Calm	0.35	8.9	Light rain	
Laredo, Texas	29.63	752 6	29.99	761.7	35	1.7	90	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Leavenworth, Kansas	29.05	737.9	29.95	760 7	21	— 6.1	86	S	12	5.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.61	752.1	29.95	760.7	50.0	10.0	86	NE	4	1.8	.....	0	8s	.....	NE	0	0	Cloudy	
Louisville, Kentucky	29.76	755 9	30.38	771.6	15	— 9.4	65	SE	6	2.7	.....	2cs	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.71	754.6	30.46	773.7	18	— 7.8	52	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.80	733.8	29.93	760.2	18	— 7.8	84	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.05	737.9	29.78	756.4	22	— 5.6	86	W	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Mason, Texas	28.32	719.3	30.16	766.1	36	2.2	79	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	30.06	763.5	30.11	772.4	21	— 6.1	72	S	6	2.7	.....	8ck	0	SW	.....	0	0	Fair	
Milwaukee, Wisconsin	29. 0	741.7	29.98	761.5	16	— 8.9	83	S	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Mobile, Alabama	30.41	772.2	30.48	774.2	25	— 3.9	75	N	7	3 1	.....	.....	10s	.....	S	0	0	Cloudy	
Montgomery, Alabama	30.26	768.6	30.53	775.4	21	— 6.1	92	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Morgantown, West Virginia	29.32	744.7	30.46	773.7	23	— 5.0	73	SW	1	0.4	.....	2cs	0	Calm	.....	Inap.	Inap.	Clear	
Mt. Washington, N. H.	23.58	598 9	29.94	760.5	15	— 9.4	63	E	8	3.6	.....	0	5ks	.....	E	0	0	Clear	
Nashville, Tennessee	29.85	758.2	30.14	774.2	17	— 8 3	83	E	2	0.9	.....	5cs	Sm'e	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.18	766.6	30.31	769.9	16	— 8.9	74	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.24	768.1	30.30	769.6	14	—10.0	46	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.31	769.9	30.37	771.4	34	1.1	79	E	12	5.4	.....	.....	10ks	.....	SE	0	0	Cloudy	
Newport, Rhode Island	30.20	767.1	30.25	768.3	16	— 8.9	66	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.16	766.1	30.35	770 9	22	— 5.6	72	N	2	0.9	.....	Haze	Sm'e	Calm	N	0	0	Smoky	
Norfolk, Virginia	30.44	773.2	30.50	774.7	18	— 7.8	68	NW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
North Platte, Nebraska	27.03	686.6	29.70	754.4	25	— 3.9	68	NW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Olympia, Washington Ter	30.59	777.0	30.64	778.2	26	— 3.3	88	NE	2	0.9	.....	0	5s	.....	NE	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Correcte for instrum'tal error and temperature. Inches.	Barometer. Correcte for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Omaha, Nebraska	28.73	729.7	29.88	758.9	22	— 5.6	72	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Oswego, New York	29.96	761.0	30.30	769.6	29	— 1.7	78	SW	6	2.7	.....	5c	0	W	.....	Inap.	Inap.	Fair	
Pembina, Dakota	28.94	735.1	29.83	757.7	14	—10.0	100	NW	14	6.3	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	
Philadelphia, Pa	30.35	770.9	30.41	772.4	19	— 7.2	54	W	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.66	728.0	30.49	774.4	44	6.7	84	Calm	.....	.....	0	2k	0	SW	.....	0	0	Fair	
Pike's Peak, Colorado	17.35	441.0	29.56	750.8	— 3	—19.4	100	SW	12	5.4	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Pioche, Nevada	23.85	605.8	29.62	752.3	11	—11.7	60	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pittsburg, Pennsylvania	29.56	750 8	30.47	773.9	11	—11.7	80	SW	7	3.1	.....	0	2s	.....	Calm	0	0	Fair	
Port Huron, Michigan	29.44	747.8	30.16	766.1	15	— 9.4	82	SW	20	8.9	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy	
Portland, Maine	30.14	765.5	30.19	766.8	17	— 8.3	83	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Portland, Oregon	30.60	777.2	30.72	780.3	25.0	— 3.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.46	621.3	29.82	757.4	29.5	— 1.4	64	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.06	738.1	29.94	760.5	23	— 5.0	82	N	12	5.4	.....	8k	2s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.41	772.4	30.43	772.9	36	2.2	71	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	30.01	762.2	30.38	771.4	43	6.1	28	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.93	760.2	30.16	766.1	37	2.8	90	E	4	1.8	.....	5c	2s	Calm	Calm	0	0	Cloudy	
Rochester, New York	29.64	752.8	30.31	769.9	17	— 8.3	83	SW	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Roseburg, Oregon	30.05	763.3	30.67	779.0	26.0	— 3.3	100	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sacramento, California	30.16	766.1	30.24	768.1	39	3.9	46	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.52	749.8	30.13	765.3	24	— 4.4	61	S	20	8.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
St. Marks, Florida	30.51	774.9	30.73	775.4	18	— 7.8	68	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.89	733.8	29.75	755.6	20	— 6.7	92	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.53	648.4	29.86	758.4	20	— 6.7	85	NW	4	1.8	.....	.....	10s	.....	Calm	0.33	8.4	Cloudy	
San Antonio, Texas	29.39	746.5	30.00	762.0	35	1.7	90	SE	3	1.3	.....	.....	10n	.....	Calm	Inap	Inap.	Light rain	
San Diego, California	29.96	761.0	30.03	762.8	54.0	12.2	78	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Sandusky, Ohio	29.55	750.6	30.29	769.4	15	— 9.4	82	SW	18	8.0	.....	10k	0	NW	.....	0.02	0.5	Cloudy	
Sandy Hook, New Jersey	30.30	769.6	30.34	770.6	24	— 4.4	61	NW	13	5.8	.....	1k	0	SW	.....	0	0	Clear	
San Francisco, California	30.21	767.3	30.28	769.1	49	9.4	31	NE	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	22.94	582.7	29.48	748.8	26	— 3.3	75	Calm	0	0	.....	.....	10n	.....	S	Inap.	Inap.	Light snow	
Savannah, Georgia	30.45	773.4	30.55	776.0	28	— 2.2	66	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.02	762.5	30.26	768.6	25	— 3.9	87	SE	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy	
Silver City, New Mexico	24.02	610.1	30.28	769.1	35	1.7	90	SW	8	3.6	.....	.....	10n	.....	Calm	0.50	12.7	Light rain	
Smithville, North Carolina	30.52	775.2	30.56	776.2	17	— 8.3	83	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.16	766.1	30.30	769.6	14	—10.0	46	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.72	678.7	29.72	754.9	34	1.1	52	W	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Thatcher's Island, Mass	30.16	766.1	30.21	767.3	16	— 8.9	66	NW	20	8.9	.....	0	1s	.....	N	0	0	Clear	
Toledo, Ohio	29.49	749.0	30.22	767.6	16	— 8.9	83	S	16	7.2	.....	0	8s	.....	NW	0.01	0.3	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	49	9.4	57	W	3	1.3	.....	2k	0	W	.....	0	0	Fair	
Tybee Island, Georgia	30.53	775.4	30.56	776.2	31	— 0.6	58	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	30.34	770.6	30.99	784.8	9.0	—12.8	89	SE	3	1.3	.....	0	0	.....	.....	0.01	0.3	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	36	2.2	80	S	.....	.....	1	.....	10s	.....	S	0.09	2.3	Cloudy	
Uvalde, Texas	29.13	739.9	30.00	762.0	36	2.2	80	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	30.16	766.1	30.44	773.2	18	— 7.8	68	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.40	619.8	29.88	758.9	12	—11.1	80	NE	12	5.4	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Visalia, California	29.68	753.9	30.06	763.5	37	2.8	95	S	4	1.8	.....	8k	0	Calm	.....	0	0	Fair	
Washington, D. C	30.33	770.4	30.46	773.7	13	—10.6	81	W	1	0.4	.....	1ck	Fog	NW	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	43	6.1	83	SE	.....	.....	1	.....	10ks	.....	W	0	0	Cloudy	
Wilmington, N. Carolina	30.46	773.7	30.54	775.7	18	— 7.8	68	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.81	655.8	30.17	766.3	14	—10.0	82	NE	8	3.6	.....	5k	0	NE	.....	Inap.	Inap.	Fair	
Wood's Holl, Mass	30.19	766.8	30.23	767.8	14	—10.0	63	N	12	5.4	.....	0	2s	.....	Calm	0	0	Clear	
Yankton, Dakota	28.65	727.7	30.02	762.5	21	— 6.1	70	NW	18	8.0	.....	5qs	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.71	754.6	29.88	758.9	48	8.9	63	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayettville, Ark	28.38	720.8	29.86	758.4	26	— 3.3	88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	30.27	768.8	30.29	769.4	62	16.7	70	SE	1.2	0.5	.....	.....	8n	.....	NE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.25	768.3	30.26	768.6	75	23.9	85	Calm	0	0	.....	6c	6s	Calm	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	30.03	762.8	30.11	764.8	78	25.6	.....	NE	28.7	12.8	.....	.....	.....	.....	.....	0.24	6.1	Partly cl'dy.	F. M Everett.
Paramaribo, D.Guiana, S.A	30.05	763.3	30.05	763.3	79	26.1	87	NE	.....	.....	2	4k	6ks	E	.....	0.020	0.50	½ clouded	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.17	766.3	30.22	767.6	—29.0	—33.9	.....	N	4	1.8	.....	2c	2s	W	W	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,323 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,263 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.8 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.38 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.20	767.1	41	5.0	42	5.6	42	N	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.48	774.2	30	— 1.1	30	— 1.1	78	NE	20	8.9	.....	.....	10	.....	S	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N. H	30.20	767.1	54	12.2	11	—11.7	80	WNW	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital Yokohama, Japan *	30.19‡	766.8‡	.....	.....	41.6	5.3	73	Calm	.....	.....	0	.....	8k;ck	.....	SW; NW	0	0	.....	.....	Fair	
Alaska, Panama	30.16	766.1	80	26.7	77	25.0	82	NW	.....	.....	3	.....	2	.....	SE	0.08	2.0	.....	.....	D. clouds....	
Alliance, Smyrna, Turkey	29.83‡	757.7‡	.....	.....	52	11.1	93	E	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Raining.....	
Ashuelot, N. 13° 43′, E. 100° 29′	30.05	763.3	78	25.6	76	24.4	77	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Canonicus, New Orleans, La	30.28	769.1	34	1.1	34	1.1	100	E	.....	.....	4	.....	10	.....	E	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	30.25	768.3	18	— 7.8	17	— 8.3	100	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	29.91‡	759.7‡	.....	.....	36	2.2	90	E	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Threatening	
Despatch, Constantinople, Turkey	30.02‡	762.5‡	.....	.....	45	7.2	76	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Raining.....	
Franklin, Norfolk, Va.	30.62	777.7	70	21.1	22	— 5.6	100	NW	3.6	1.6	.....	.....	2	.....	W	0	0	.....	.....	Clear	
Gettysburg, Villafranca, France	29.95‡	760.7‡	.....	.....	48	8.9	85	Calm	.....	.....	0	.....	10	.....	.....	0	0	Smooth	.....	Overcast....	
Hartford, Montevideo, Uruguay	30.00	762.0	69	20.6	69	20.6	75	NNE	8.4	3.8	.....	.....	0	.....	.....	0	0	Smooth	.....	Clear...	
Lackawana, Punta Arenas, Costa Rica	29.75‡	755.6‡	.....	.....	79	26.1	74	NE	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	.19†	766.8†	.....	.....	13	—10.6	81	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Monocacy, Yokohama, Japan *	30.22‡	767.6‡	.....	.....	40	4.4	73	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Foggy	
New Hampshire, Port Royal, S. C.	30.65†	778.5†	.....	.....	31	— 0.6	79	NW	2	0.9	.....	.....	2	.....	NW	.....	.....	.....	.....	Clear.	
Onward, Callao, Peru	30.08†	764.0†	.....	.....	67	19.4	89	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.19	766.8	40	4.4	28	— 2.2	77	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	13	—10 6	44	Calm	.....	.....	0	.....	2	.....	W	.....	.....	.....	.....	Clear.	
Pensacola, N. 8° 30′, W. 83° 55′	29.92‡	760.0‡	.....	.....	81	27.2	83	NW	1.0	0.4	.....	.....	5	.....	SE	.....	.....	Smooth	SW	Fair	
Powhatan, Norfolk, Va.	30.42	772.6	21	— 6.1	21	— 6.1	100	WNW	3.0	1.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Quinnebaug, Norfolk, Va...	30.50‡	774.7‡	.....	.....	19	— 7.2	.....	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Richmond, Brooklyn, N. Y.	30.36‡	771.1‡	.....	.....	21	— 6.1	100	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Misty.....	
Rio bravo, Brownsville, Texas	30.09	764.3	53	11.7	40	4.4	100	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	30.43‡	772.9‡	.....	.....	13	—10.6	.....	NW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa	30.27	768.8	55	12.8	15	— 9.4	.....	W	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, N. 47° 07′, W. 7° 43′	29.76‡	755.9‡	.....	.....	55	12.8	100	WSW	.....	.....	6	.....	10	.....	WSW	.....	.....	Long	WSW	Drizzling....	
Trenton Villafranca, France *	29.98‡	761.5‡	.....	.....	46	7.8	77	NW	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Tuscarora, Fonseca Bay, San Salvador	29.99‡	761.7‡	.....	.....	80	26.7	70	N	.....	.....	2–3	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia, N. 31° 57′, W. 70° 17′	30.29‡	769.4‡	.....	.....	51	10.6	79	NW	.....	.....	7	.....	2	.....	NW	.....	.....	Heavy	NW	Clear.....	
Wabash, Boston, Mass	30.26‡	768.6‡	.....	.....	9	—12.8	.....	NW	6	2.7	....	.....	0	.....	.....	.....	.....	.....	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Grenada																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.04	763.0				Calm			0		0						Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer, S. S. Gaelic, N 33° 43', E. 136° 44'																			J. A. Thompson, 2d Off'r
S. S. Oceanic, Capt. J. Metcalf		30.12†	765.0†	56	13.3	?	N			3		cs		Var.	0	Smooth		Overcast	Capt. W. H. Kidley. J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, Cape Henry, Va.		30.57	776.5	29.8	— 1.2		NNW			4		2		NW	0	2	Var.	Clear	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 20', W. 72° 36'		30.14*	765.5*	38	3.3	90	NNW			7		5?		NW	0	Light	NW	Cloudy?.....	Captain Sargent.
S. S. Ohio, Liverpool		29.84†	757.9†	41	5.0	??	ESE			3		9		ESE	Blank			Overcast.....	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, Halifax, N. S.		29.71*	754.6*	34	1.1		NNW			2		10s			0			Overcast.....	Capt. W. Richardson.
S. S. Hiberulan,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING Co., 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 8, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.28	769.1	64.0	17.8	73	NE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	29.96	761.0	64.9	18.3	83	WNW	.....	.....	7	.....	8	.....	.....	0	0	Very cloudy	Kesxnche.
Algiers	.....	.....	29.60	751.9	61.5	16.4	71	SW	.....	.....	5	.....	2	.....	.....	0.232	5.9	Fair	Touriliere.
La Calle	.....	.....	29.59	751.6	62.6	17.0	72	NW	.....	.....	4	.....	8	.....	.....	0.157	4.0	Very cloudy	Foufrede.
Tunis	.....	.....	29.67	753.7	61.9	16.6	75	WNW	.....	.....	4	.....	7	.....	.....	0.067	1.7	Fog & haze	Jacques.
Sfax	.....	.....	29.72	755.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gac.
Saida	.....	.....	29.86	758.5	59.4	15.2	41	WSW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	29.65	753.0	56 8	13.8	52	W	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	29.88	759.0	55.2	12.9	81	W	.....	.....	4	.....	10	.....	.....	0	0	Covered	Brugniaux.
Laghouat	.....	.....	29.77	756.2	61.9	16.6	40	SSE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Bertrand.
Biskra	.....	.....	29.94	760.5	64.9	18.3	53	NW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.19	741.4	29.77	756.1	27.1	— 2.7	89	Calm	.....	.....	0	.....	10	.....	.....	0.008	0.2	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.6	29.89	759.2	24.4	— 4.2	100	ENE	.....	.....	2	.....	10	.....	.....	0.016	0.4	.....	Dr. Wierzbiski
Eperies	28.84	732.4	29.77	756.1	23.4	— 4.8	76	N	.....	.....	3	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.47	723.0	29.79	756.7	22.6	— 5.2	89	SE	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	Andreas Rospini.
Hermannstadt	28.12	714.2	29.62	752 3	25.2	— 3.8	98	ESE	.....	.....	1	.....	10	.....	.....	0.602	15.30	.....	Prof. A. Gottschling.
Kremsmünster	28.35	720.0	29.77	756.2	20.8	— 6.2	95	ENE	.....	.....	5	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.78	731.0	29.83	757.7	21.2	— 6.0	86	S	.....	.....	1	.....	10	.....	.....	0.035	8.0	.....	Dr. T. Stanecki.
Pola	28.58	751.3	29.70	754.3	35.4	— 1.9	49	ENE	.....	.....	3	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.32	744.8	29.81	757.2	27.7	— 2.4	94	N	.....	.....	3	.....	10	.....	.....	0.173	4.4	.....	Julius Csics, S. J.
Szegedin	29.36	745.8	29.66	753.3	27.7	— 2.4	96	N	.....	.....	3	.....	10	.....	.....	0.085	2.15	.....	Karl Stancel.
Trieste	29.61	752.2	29.72	754.8	33.4	0.8	80	ENE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Snowing	P. Busin.
Vienna	29.05	737.9	29.81	757.2	24.3	— 4.3	75	N	.....	.....	1	.....	5	.....	.....	0.035	0.9	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, m. p.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.90	759.4	30.00	762.0	36.6	2.6	.....	SSE	27	12.1	.....	.....	7	.....	.....	0.005	0.13	Squally	W. Boswell.
Ardrossan	29.81	757.2	29.82	757.4	34	1.1	.....	E	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky	George Carrick.
Armagh, Observatory	.....	.....	29.70	754.4	33.5	0.9	.....	E	29	13.0	.....	.....	0	.....	.....	.....	.....	Blue sky	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.70	754.4	31.9	— 0.1	.....	E	29	13.0	.....	.....	0	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton	.....	.....	29.74	755.4	31.7	— 0.2	.....	SE	42.0	18.8	.....	.....	.....	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.39	746.5	29.79	756.7	32.2	0 1	.....	E	.....	.....	6	.....	8	.....	.....	0	.....	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.99	761.7	80	26.7	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	29.68	753.9	33.0	0.6	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	H. Todd. [C.
Cardington	.....	.....	29.72	754.9	31.0	— 0.6	.....	SE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.48	748.8	29.62	752.3	33.2	0.7	.....	SE	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	Lt. W. G. Morris, R.E.
Dartmoor	28.18	715.8	29.70	754.4	28.0	— 2.2	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	Snowing	Alexander Watt.
Donaghadee	29.74	755.4	29.79	756.7	35	1.7	.....	SE	.....	.....	6	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.57	751.1	29.61	751.8	34	1.1	.....	ESE	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	J. Costello.
Falmouth, Observatory	29.04	737.6	29.28	743.7	39.4	4.1	.....	E	.....	.....	7	.....	10	.....	.....	.....	.....	Squally	The Staff.
Fort Napier, (Natal)	27.50	698.5	29.81	757.2	62.0	16.7	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	85	29.4	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.61	752.1	35	1.7	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.86	758.4	29.91	759.7	60.7	15.9	.....	W	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.66	753.4	29.87	758.7	33.7	0.9	.....	ENE	.....	.....	4	.....	.....	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.75	755.6	29.76	755.9	33	0.6	.....	E	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.43	747.5	29.61	752.1	33.2	0.7	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	The Staff, or G. B. Airy
Guernsey	29.66	738.1	29.29	741.0	35	1.7	.....	ENE	.....	.....	6	.....	10	.....	.....	.....	.....	D. clouds	
Helston	29.21	741.9	29.33	745.0	47	8.3	.....	E	.....	.....	6	.....	10k	.....	.....	.....	.....	Drizzling	Dr. S. E. Hoskins, F.R.S.
Holyhead	29.62	752.3	29.68	753.9	32	0.0	.....	E	.....	.....	6	.....	2	.....	.....	0	0	Squally	M. P. Moyle.
Jersey	28.95	735.3	29.25	742.9	32.2	0.1	.....	E	.....	.....	6	.....	10	.....	.....	Blank	Blank	Misty	J. Fisher.
Kew, Observatory	29.54	750.3	29.58	751.3	33.1	0.6	.....	E	46	20.6	.....	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Kingstown	29.61	751.8	29.63	752.6	35	1.7	.....	ESE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	29.45	748.0	29.71	754.6	31.0	— 0.6	.....	SE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.68	753.9	29.76	755.9	56	13.3	.....	NW	.....	.....	2	.....	4n	.....	.....	.....	.....	Showery	Sergt. Beckett, A. H. C.
Nairn	29.80	756.9	29.90	759.4	36	2.2	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.26	768.6	68.5	20 3	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.57	751.1	29.76	755.9	32.1	0.1	.....	E	.....	.....	4	.....	2c	.....	E	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.13	739.9	29.68	753.9	29.1	— 1.6	.....	ENE	.....	.....	5–6	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.60	751.8	32	0.0	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	Squally	H. E. Bellamy.
Plymouth	29.25	742.9	29.32	744.7	36.6	2.6	.....	ENE	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Roche's Point	29.44	747.8	29.48	748.8	36	2.2	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Covered	W. Kennedy.
Saint Ann's Head	29.28	743.7	29.45	748.0	33	0.6	.....	E	.....	.....	7	.....	7	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.91	759 7	36 5	2.5	.....	SSE	40	17.9	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.49	749.0	47.0	8.3	.....	SW	.....	.....	3	.....	9	.....	.....	.....	.....	Raining	Sergt. W. H. Lyne.
Sheffield	29.51	749.5	29.80	756.9	32 3	0.2	.....	NE	.....	.....	3	.....	9	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	36 7	2.6	81	SE	.....	.....	5	.....	0	.....	.....	0	0	Blue sky	F. H. Redford.
Stonyhurst Observatory	29.38	746.2	29.78	756.4	32 6	0.3	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield Turgiss	29.45	748.0	29.68	753.9	27.8	— 2.3	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S
Thurso	29.84	757.9	29.91	759.7	37	2.8	.....	S	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	29.36	745.7	39	3 9	.....	E	.....	.....	8	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.47	748.5	29.50	749.3	40.4	4.7	.....	E	23	10.3	.....	.....	10	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	61.0	16.1	83	S	.....	.....	2	.....	10k	.....	.....	0.12	3.0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.95	760.7	35.0	1.7	.....	SE	.....	.....	2	9ck	.....	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.78	756.4	29.96	761.1	81.4	27.4	59	ENE	12.5	5.6	.....	1	3	.....	E	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	61.0	16.1	71	S	10	4.5	.....	.....	10	.....	.....	0.01	0.3	Dull	R. L. J. Ellery.
Monach Li-house, (Hebrides	.....	.....	29.78	756.4	37	2.8	.....	SSE	.....	.....	8	5	5	SSE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway. Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series: 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
U. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru'tal error and temperature. Inches.	BAROMETER. Corrected for instru'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	63.5	17.5	88	NE	.....	.....	1	.....	3cs	.....	E	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.02	762.4	30.06	763.6	25.5	— 3.6	95	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Fanöe	30.09	764.2	30.11	764.7	19.6	— 6.9	89	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	30.00	761.9	30.17	766.2	21.6	— 5.8	90	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	28.73	729.7	29.28	743.7	31.3	— 0.4	92	NW	.....	.....	2	.....	10	.....	.....	0.563	14.3	Covered	Collignon, Director.
Amiens, Normal School	29.35	745.4	29.46	748.3	33.1	0.6	71	E	.....	.....	4	.....	2	.....	SE	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.29	743.9	29.37	745.9	41.8	4.9	81	E	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	M. Giraud, Director.
Bar-sur-Seine	28.79	731.2	29.37	746.1	28.9	— 1.7	85	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing	C. Saillard, Director.
Beauvais, Normal School	29.13	740.0	29.43	747.5	32.5	0.3	74	E	.....	.....	3	.....	8	.....	WNW	0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon, Normal School	28.64	727.5	29.53	750.0	29.3	— 1.5	.....	E	.....	.....	6	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.41	721.7	29.34	745.1	35.1	1.7	89	S	.....	.....	4	.....	10n	S	S	0.12	3.	Raining	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	28.84	732.6	29.09	738.8	37.4	3.0	89	ENE	.....	.....	3	.....	10	.....	E	0.925	23.50	Raining	M. de Rermaur, Director.
Carcassonne, Normal School	28.93	734.8	29.35	745.5	40.3	4.6	67	E	.....	.....	1	.....	5	E	E	0.732	18.6	Cloudy	September, Director.
Caen, Normal School	29.22	742.1	29.30	744.1	32.4	0.2	86	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	28.66	728.0	29.25	743.0	26.6	— 3	62	E	.....	.....	1	.....	10	.....	W	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.11	739.4	29.44	747.7	30.7	— 0.7	.....	E	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	27.81	706.3	29.14	740.1	48.2	9.0	71	SW	.....	.....	1	.....	10	.....	W	0.720	18.3	Covered	Alluard, Director.
Commercy, Normal School	28.68	728.5	29.56	751.1	27.5	— 2.5	96	E	.....	.....	6	.....	5sn	.....	E	0	0	Cloudy	Br. Coulet, Director.
Commune de Grésaque*	28.31	719.0	29.45	748.0	37.0	2.8	80	SE	.....	.....	2	.....	10	.....	SE	1.075	27.3	Snowing	M. King, Director.
Grenoble, Normal School	28.58	72 .9	29.37	746.1	28.8	— 1.8	.....	E	.....	.....	3	.....	10n	.....	.....	0.343	8.70	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	28.88	733.6	29.10	739.1	43.2	6.2	97	E	.....	.....	1	.....	10	.....	.....	0.835	21.2	Raining	Mouillot, Director
Le Mans, Normal School	28.94	735.0	29.26	743.1	29.3	— 1.5	96	ESE	.....	.....	4	.....	10	.....	E	0.955	24.25	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.34	719.7	29.30	744.3	35.4	1.9	93	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Baudry, Director.
Lorient, Naval Observatory	29.01	736.7	29.19	739.1	34.5	1.4	96	NE	.....	.....	3	.....	.....	.....	E	0.654	16.6	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.46	722.9	29.53	750.1	20.7	— 6.3	89	W	.....	.....	4	.....	k	.....	E	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.17	740.8	29.37	746.0	38.8	3.8	85	SE	.....	.....	2	.....	10	.....	N	1.30	33.	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.37	618.9	.....	.....	34.2	1.2	100	W	.....	.....	10	.....	.....	.....	.....	0.772	19.6	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.08	738.5	29.11	739.3	49.5	9.7	98	WSW	.....	.....	1	.....	10	WSW	WSW	0.24	6.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.27	743.5	29.36	745.7	33.8	1.0	50	SSE	.....	.....	4	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port)	29.20	741.8	29.24	742.6	31.1	— 0.5	80	ESE	.....	.....	4	.....	10	ESE	ESE	0.73	18.77	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.17	741.0	29.34	745.2	32.4	0.2	53	E	.....	.....	4	.....	.....	.....	W	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.23	717.0	29.32	744.8	44.6	7	71	SW	.....	.....	6	.....	10	.....	.....	0.55	14.	Raining	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	28.64	727.5	29.38	746.3	34.5	1.4	96	S	.....	.....	1	.....	.....	.....	.....	0	0	Misty	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.99	761.7	30.02	762.4	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.67	17.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.25	742.9	39.7	4.3	79	SSW	.....	.....	3	.....	10	.....	.....	0.413	10.5	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.20	614.6	29.51	749.6	38.8	3.8	85	SSW	28.0	12.5	.....	.....	10	.....	.....	0.047	1.2	.....	M. Cave.
Nice	.....	.....	29.57	751.0	42.4	5.8	73	E	.....	.....	8	.....	10	.....	.....	0.051	1.3	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.06	738.2	.....	.....	31.6	— 0.2	63	E	.....	.....	6	.....	8	.....	W	0	0	.....	Marié Davy, Director
Perpignan	29.22	742.3	29.33	745.0	42.1	5.6	88	NW	11.2	5.0	.....	.....	10	.....	.....	0.331	8.4	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.81	554.0	.....	.....	31.2	— 1.0	.....	NW	.....	.....	6-8	.....	10	.....	.....	0.859	21.3	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.52	724.3	29.22	742.3	42.4	5.8	100	SSE	.....	.....	3	.....	10	.....	.....	0.724	18.4	.....	M. Mercadier Julier.
Tours	28.99	736.4	29.19	741.4	32.7	0.4	93	E	.....	.....	2	.....	10	.....	E	1.28	32.7	.....	C. Marquet.
Versailles Observatory	.....	.....	29.32	744.7	32.4	0.2	.....	E	.....	.....	4	.....	10	.....	.....	0	0	Covered	Dr. A. Berigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.44	773.3	30.47	773.9	36.9	2.7	79	NNW	7.6	3.4	.....	7c	.....	W	.....	0	0	Cloudy	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Grésaque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.92	734.5	29.75	755.7	22.5	— 5.3	66	NE			7		3	E		0.039	1.0		Prof. Dr. Hoh.
Berlin	29.84	757.9	30.02	762.6	21.9	— 5.6	85	NE			1		5			0	0		Prof. Arndt.
Breslau	29.41	746.9	29.93	760.3	16.2	— 8.8	93	NNW			1		10			0	0		Royal University Obs'y
Carlsruhe	29.19	741.5	29.63	752 7	28.0	— 2.2	79	NE			4		2c;k	W;E		0	0		Albert Senz.
Cassel	29.30	744.2	29.91	759.6	23.0	— 5.0	82	ESE			2		0			0	0		Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	27.7	— 2.4	77	E			4		0			0	0		Director Lose.
Emden					23.0	— 5.0	74	NE			4		0			0	0		Prof. Prestel.
Frankfort on the Main	29.40	746 8	29.78	756.3	28.4	— 2.0		ENE			4		3			0	0		Physical Society.
Friedrichshafen	28.10	713.7	29.60	751.9	23.0	— 5.0	58	NE			9		7	W		0	0		M. Wilhelm.
Hamburg	29.98	761.4	30.05	763.3	18.3	— 7.6	92	N			2		2			Inap.	Inap.	Clear	Captain F. Hegemann
Kiel	30.03	762.7	30.05	763.2	27.3	— 2.6	81	NE			2		1			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.84	757.9	29.93	760.1	27.5	— 2.5	89	NE			2		2			0.028	0.7	Snowing	Prof. E Luther.
Köslin			29.90	759.5	19 8	— 6.8		NE			2		4			0.157	4.0		H. Müller.
Leipsic, Observatory	29.54	750.3	29.99	761.8	18 0	— 7.8	83	NE			2		0			0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.92	760.0	29.97	761.2	23.9	— 4.5	93	NNE			1		0						Skalweit.
Neufahrwasser	29.89	759.3	29.91	759.7	33.1	0.6	89	E			2		10			0.094	2.4		A. Lothes.
Posen	29.77	756.1	30.08	764.0	18.7	— 7.4	97	NW			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.03	737.3	29.60	751.8	29.5	— 1.4	70	NE			3		8	SW		0.024	0.61		Imp. University Observatory.
Stuttgart	28.69	728.6	29.67	753.6	26.6	— 3.0	57	SE			1		2	E		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.19	716.0	29.78	756.4	22.8	— 5.1	74	E	9.0	4			7ck		ENE	0	0		Dr. Van Bebber.
Wustrow, Naval School	29.96	761.0	29.98	761.6	28.4	— 2.0	100	ENE			1		5k			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.26	743.1	29.66	753 3	47.7	8.7		NW			2.0							½ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.6	29.96	760.9	73.8	23.2	51	NE				0				0	0	Blue sky	
Deesa	29.51	749.4	29.99	761 8	74.7	23.7	25	Calm				1	SW			0	0	D. clouds	
Bombay	29.90	759.4	29.94	760.4	76.4	24.4	71	NW	17.0	7.6		0				0	0	Blue sky	
Poonah	27.92	739.2	29.93	760.1	79.4	26.3		ESE				0				0	0	Blue sky	
Lahore	29.20	741.7	29.98	761.4	59.6	15.3	39	Calm	0.5	0.2		0				0	0	Blue sky	
Belgaum	27.39	695.7	29.93	760.2	77.4	25.2	53	Calm	0	0		1				0	0	Blue sky	
Roorkee	29.04	737.7	29.98	761.6	61.4	16.3	55	Calm	1.0	0.4		10				0	0	D. clouds	
Agra	29.39	746.4	29.97	761.2	66.8	19.3	41	E				0				0	0	Gloomy	
Nagpur	28.88	733.6	29.94	760.4	74.9	23.8	40	SE	1.7	0.8		0				0	0		
Lucknow	29.59	751.6	29.98	761.4	67.4	19.7	33	N	1.3	0.6		0				0	0	Blue sky	
Allahabad	29.65	753.2	29.98	761.4	62.9	17.2	62	Calm	0.5	0.2		0				0	0	Blue sky	
Patna	29.79	756.8	29.98	761.6	62.6	17.0	66	Calm	0.1	0.04		0				0	0	Blue sky	
Hazaribagh	27.91	708.9	29.99	761.8	62.3	16.8	49	Calm	4.1	1.8		0				0	0	Blue sky	
Cuttack	29.91	759.8	30.00	761 9	69.9	21.1	51	N	0.8	0.4		0				0	0	Blue sky	
Calcutta (Alipore)	29.95	760.8	29.98	761.4	66.5	19.2	73	WSW	3.0	1.3		0				0	0	Blue sky	
Goalpara					67.4	19.7	71	Calm	4.5	2.0		0				0	0	Blue sky	
Chittagong	29.90	759.3	29.99	761.8	68.6	20.3	80	Calm	2.4	1.5		0				0	0		
Sibsagar	29.69	754.2	30.04	763 1	62.4	16.9	86	NE	0.5	0.2		10	W	W		0.01	0.3	D. clouds	
Jubbulpore	28.56	725.5	29.96	760.8	72.3	22.4	45	Calm	2.7	1.2		0				0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.4 feet, or 646.3 meters: Nagpur, 1,026 ft., or 3124 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.31	744.5	29.74	755.3	32.7	0.4	92	SE	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.60	751.8	29.71	754.7	33.3	0.7	87	NNE	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Moncalieri	29.15	740.4	29.69	754.1	29.7	— 1.3	90	NE	.....	.....	1	.....	10	.....	.....	0.075	1.9	.....	Prof. Schiaparelli.
Mondovi	28.70	731.4	29.74	755.4	30.4	— 0.9	60	N	.....	.....	1	.....	10	NE	.....	0.059	1.5	.....	Prof. P. F. Denza.
Genoa	27.72	704.1	29.69	754.2	25.3	— 3.7	91	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Florence	29.47	748.6	29.67	753.6	31.1	— 0.5	79	N	8.1	3.6	.....	.....	10	S	.....	0.315	8.0	.....	Prof. G. M. Garibaldi.
Leghorn	29.38	746.3	29.65	753.0	37.8	3.2	63	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci
Pesaro	29.53	750.0	29.61	752.2	36.9	2.7	55	ENE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Rome	29.62	752.4	29.67	753.7	34.3	1.3	76	NW	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Lecce	29.48	748.8	29.66	753.4	41.6	5.0	64	ESE	1.8	0.8	.....	.....	10	.....	.....	0.043	1.1	.....	Prof. P. S. Ferrari.
Cagliari	29.44	747.7	29.69	754.2	42.8	6.0	55	N	15.0	6.7	.....	.....	4	NNE	.....	0.394	10.0	.....	Prof. C. De Giorgi.
Cosenza	29.32	744.6	29.51	749.5	53.6	12.0	89	E	.....	.....	2	.....	10	NW	.....	0.146	3.7	.....	Prof. A. Pacinotti.
Palermo	28.81	731.7	29.71	754.6	45.3	7.4	74	SE	1.8	0.8	.....	.....	10	.....	.....	0.299	7.6	.....	Prof. D. Conti.
Syracuse	29.40	746.7	29.65	753.2	48.9	9.4	89	NE	2.5	1.1	.....	.....	10	W	.....	0.035	0.9	.....	Prof. G. Cacciatore.
	29.59	751.5	29.66	753.4	56.3	13.5	54	SW	6.3	2.8	.....	.....	10	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.14	740.2	29.70	754.3	43.0	6.1	45	NE	1.8	0.8	.....	.....	5	.....	.....	0.795	20.2	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.03	762.7	30.05	763.3	43.8	6.6	83	N	3.0	1.3	.....	.....	10 clks	.....	.....	0	0	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.15	765.8	47.4	8.6	85	NW	10.5	4.7	.....	.....	10 clk	.....	W	0.015	0.38	Cloudy	S. Takekayashi
Tokei (Yeddo, Observatory	29.86	758.4	29.93	760.2	35.6	1.7	92	S	4.4	2.0	.....	1 clk	0	W	.....	0	0	Foggy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.5	30.35	770.9	41.9	5.5	55	SW	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.18	766.7	51.4	10.8	74	SE	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.3	30.25	768.4	46.4	8.0	77	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	48.2	9.0	62	W	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	29.96	760.9	29.97	761.2	63	17.2	95	SW	.....	.....	1	0	0	W	.....	0	0	Hazy	M. M. Cházaro.
San Luis Potosi	24.22	615.2	30.14	765.6	54.0	12.2	72	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	G. Barreda, M. D.
Vera-Cruz	29.77	761.3	30.00	762.0	62.6	17.0	80	SW	0	0	.....	2s	S	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	22.56	572.9	.....	.....	51.8	11	55	SW	.....	.....	3	2	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute	23.43	595.0	30.20	767.0	42.8	6.0	72	N	0.6	0.4	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.44	722.4	30.11	764.8	72.2	22.4	72	NE	.....	.....	2	0	3	.....	.....	0	0	⅜ clouded	R. Landa, C. E.
San Juan E. Michapam	29.96	761.1	30.10	764.5	66.5	19.2	.....	E	.....	.....	1	.....	.....	.....	.....	0	0	Hazy	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.69	754.2	29.69	754.2	29.8	— 1.2	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	29.98	761.5	30.04	762.9	.....	.....	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.91	759.6	29.91	759.6	25.2	— 3.8	.....	ENE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.79	755.9	29.76	755.9	27.5	— 2.5	100	E	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.79	756.7	29.84	757.9	26.8	— 2.9	87	E	.....	.....	5	.....	2	.....	.....	0	0	Sligh'ly cl'd.	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.19	766.8	30.24	768.2	19.4	— 7.0	73	SSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.19	766.8	30.23	767.8	32.2	0.0	71	SSE	9	4	.....	.....	3	.....	.....	0	0	.....	
Christiania	30.14	765.5	30.30	769.6	13.1	—10.5	70	ENE	0	0	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.87	758.7	29.91	759.8	36.7	2.6	82	SW	13	6	.....	.....	10	.....	.....	0.268	6.8	Light rain..	

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

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Paiva Pimentel, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.02	762.6	30.22	767.5	62.6	17.0	92	W	5.6	2.5	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.77	730.7	29.83	757.1	54.0	12.2	86	WNW	23.0	10.3	.....	.....	10	WNW	.....	0.094	2.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.25	768.4	30.34	770.6	66.4	19.1	64	S	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.58	751.2	29.93	760.3	59.0	15.0	68	WNW	18.6	8.3	.....	.....	3	.....	.....	0.425	10.8	.....	The Staff.
Ponta Delgada, (Azores)	30.21	767.4	30.28	769.2	63.0	17.2	94	W	9.4	4.2	.....	.....	10	.....	.....	0.063	1.6	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 8 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com' d't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'.
Rio Lima. Capt. da Silva Costa.																			
Porto Praya, Cape Verd Ids	.....	.....	30.08	764.0	75.2	24.0	.....	ENE	.....	.....	4	.....	1	.....	.....	3	ESE	D. clouds.....	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Quanza, N. 6° 28', E. 6° 36'	.....	.....	29.87	758.6	83.8	28.8	.....	NW	.....	.....	2	.....	7	.....	E	1	SSE	Drizzling.....	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda	.....	.....	29.84	757.8	80.6	27	.....	SSE	.....	.....	1	.....	10	.....	Calm	0	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.14	765.5	63.5	17.5	.....	NE	.....	.....	2	.....	0	.....	.....	1	NE	Blue sky.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.48	748.8	29.93	760.2	21.2	— 6.0	87	Calm	0	0	.....	.....	4ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.50	749.2	29.94	760.5	22.3	— 5.4	90	S	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds..	Astronomical Obs.
Dorpat	29.84	757.8	30.10	764.5	16.5	— 8.6	88	NE	11	5	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Prof. Dr. Weihrauch.
St. Petersburg	30.19	766.8	30.21	767.2	10.9	—11.7	100	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.25	742.9	29.92	760.0	24.1	— 4.4	73	E	9	4	.....	.....	10ks; n;cs]	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.56	750.7	29.63	752.5	24.4	— 4.2	95	ENE	45	20	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Kurdakof.
Kertch	30.07	763.8	30.09	764.3	34.5	1.4	78	E	16	7	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.70	754.4	30.30	769.7	14.7	— 9.6	87	S	11	5	.....	.....	10s	.....	.....	.....	.....	Light snow..	Meteorological Obs.
Lugan	29.89	759.2	30.11	764.8	23.9	— 4.5	72	ESE	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.08	764.1	30.10	764.6	13.6	—10.2	90	WSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.78	730.9	30.24	768.1	41.5	5.3	74	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.32	770.2	30.24	768.1	25.5	— 3.6	67	E	7	3	.....	.....	5s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.72	755.0	30.25	768.4	8.2	—13.2	81	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.88	759.0	30.18	766.5	13.8	—10.1	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.87	733.4	29.91	759.8	11.3	—11.5	84	NW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Nukuss	30.00	762.0	30.24	768.0	47.8	8.8	73	E	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	
Tashkend	28.72	729.6	30.50	774.7	43.2	6.2	69	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
Barnaul	29.83	757.6	30.39	772.0	19.9	— 6.7	89	SW	2	1	.....	.....	7	.....	.....	.....	.....	Light clouds	Teich, A. M.
Yeniseisk	30.11	764.9	30.43	772.9	20.8	— 6.2	88	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Peking, (China)	30.53	775.5	30.67	779.1	23.7	— 4.6	35	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455.7 m., or 1,492.77 ft., Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660.7 m., or 2,165.27 ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.20	741.7	29.31	744.4	53.2	11.8	73	E	1.6	0.72	.....	.....	10	.....	.....	0.045	1.14	Rainy.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.31	744.5	29.37	746.0	53.2	11.8	78	NW	4.8	2.14	.....	2	6	NE	.....	0.591	15.0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.47	672.3	.....	.....	45.0	7.2	71	W	21.1	9.44	.....	.....	2	.....	.....	0.217	5.5	.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.28	692.9	.....	.....	50.9	10.5	87	W'	26.1	11.67	.....	0	5	.....	.....	0.114	2.9	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.48	748.9	29.63	752.7	66.7	19.3	58	WNW	4.6	2.06	.....	4	5	SE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.63	727.1	29.53	750.0	51.6	10.9	81	W	33.6	15.0	.....	.....	9	.....	.....	1.453	36.9	Raining.....	D. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.14	765.6	30.21	767.3	61.3	16.3	80	E	1.8	0.8	.....	0	1s	.....	.....	0	0	Clear.....	Benito Vines, S. J
Manilla, Philippine Islands	29.81	757.2	29.86	758.5	80.6	27.0	79	NW	1.1	0.5	.....	0	2	.....	S	0.06	1.5	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.6	30.00	762.1	59.9	15.5	92	WSW	15.9	7.1	.....	0	10	.....	SW	0.043	1.1	.....	
San Juan de Porto Rico, W. I	30.05	763.3	30.14	765.6	77.4	25.2	86	E	7.7	3.44	.....	5kn	5kn	E	E	0.079	2.00	Overcast.....	Capt. C. Pulazon, R. N. Dir. Leonardo de Tejeda, Ch't Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.16	766.0	30.20	767.0	24.1	— 4.4	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.18	766.6	30.23	767.9	21.2	— 6.0	95	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.22	767.6	30.27	768 9	26.2	— 3.2	91	Calm	.....	.....	0	.....	9	.....	.....	0	0	.....	
Stockholm	30.00	762.0	30.18	766.5	25.5	— 3.6	74	NNE	.....	.....	2	.....	3	.....	.....	0.004	0.1	.....	
Wisby	29.95	760.8	29.01	762.3	29 8	— 1.2	73	NE	.....	.....	6	.....	7	.....	.....	0.012	0.3	.....	
Sub-Series.																			
Upsala	30.13	765.2	30.20	767.1	26.1	— 3.3	82	NNE	6.7	3.0	.....	.....	1	.....	ENE	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	27.98	710 7	29.50	749.3	24.3	— 4.3	93	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....	The Observatory.
Zurich	27.90	708.6	29.65	753.2	21.7	— 5.7	75	E	.....	.....	5	.....	10	.....	.....	0	0	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —17.0 mm.; Thermometer, —5.6 cent.; Relative Humidity, +13 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.47	748.6	46.8	8.2	77	WSW	16	7.0	.....	.....	9	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.69	754.0	43.2	6.2	.....	NW	.....	.....	2	.....	5	.....	.....	0.79	20.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.82	757.4	29.94	760.5	69.4	28.8	54	SW	.....	.....	3	.....	1k	.....	SW	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	29.79	756.7	29.86	758.4	16.6	— 8.6	92	SW	10.2	4.6	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.57	751.1	29.99	759 4	23	— 5.0	.....	SW	3	1.3	.....	.....	10n	.....	SW	0.20	5.1	Light snow..	W. R. Bigg.
*Chatham, N B	29.83	757.7	29.90	759.4	17	— 8 3	92	SW	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.91	759.7	29.95	760.7	29	— 1.7	89	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.63	752.6	29.83	757.7	23.4	— 4.8	91	SW	.....	.....	2	.....	10n	.....	.....	0.50	12.7	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.76	19 3	.....	W. H. Bevis.
*Father Point, Quebec	29.74	755.4	29.76	755.9	18	— 7.8	84	SW	25	11.2	.....	.....	10n	.....	.....	0.09	2.3	Heavy snow	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.93	760.2	14.1	— 9.9	85	S	1	0.4	.....	.....	10s	.....	.....	0.02	0.5	Overcast.....	Prof. Harrison.
*Fort Garry Manitoba	29.26	743.2	30.22	767.6	—14	—26.1	90	NW	6	2.7	.....	4k	2ks	NW	NW	0	0	Fair.....	James Stewart.
Granton, Ontario	28.73	729.7	29.90	759.4	21	— 6.1	.....	SW	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Light snow..	James Grant.
*Halifax, N. S	29.89	759.2	30.03	762.7	29	— 1.7	96	W	12	5.4	.....	.....	10n	.....	.....	0	0	Threatening	F. Allison, M. A.
Hamilton, Ontario	29.55	750.6	29.94	760.5	24.7	— 4.1	93	SW	.....	.....	4	10ck	0	SW	.....	Inap.	Inap	Snowing.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.91	759.7	29.94	760.5	25	— 3.9	109	NW	.....	.....	1	0	0	.....	.....	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.56	750.8	29.92	760.0	23	— 5.0	86	SW	7	3.1	.....	.....	10n	.....	SW	0.25	6.3	Heavy snow	S. Woods, M. A.
Little Glace Bay, N. S	29.96	761.0	30.00	762.0	27.2	— 2.7	91	SW	8	3.6	.....	.....	10n	.....	.....	0.05	1.3	Overcast.....	C. H. Rigby.
*Montreal, Quebec	29.50	749 3	29.54	750.3	15.6	— 9.1	93	W	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Snowing..	D. H. McLeod, C. E
Moose Factory, Ontario	29.63	752.6	29.84	757 9	24	— 4.4	87	.....	.....	.....	.....	.....	10n	.....	.....	0	0	Cloudy.....	J. R. Nason.
*Parry Sound, Ontario	29.03	737.3	29.75	755.6	26	— 3.3	94	SW	16	7.2	.....	.....	10n	.....	SW	0.10	2.5	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.09	738 9	29.88	758.9	23.4	— 4.8	84	Calm	.....	.....	.....	.....	10n	.....	.....	.....	.....	Snowing.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.21	741.9	29.94	760.5	25	— 3.9	100	SW	12	5.4	.....	.....	10n	.....	SW	0.12	3.0	Light snow.	H. Morgan.
Port Hastings, N. S	29.96	761.0	30.02	762.5	26.7	— 2.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29 28	743.7	29.96	761.0	24	— 4.4	86	SW	.....	.....	.....	.....	10n	.....	SW	0.10	2.5	Light snow..	M. Payne.
*Quebec, Quebec	29.51	749.5	29.86	758.4	8	—13.3	100	Calm	.....	.....	0	.....	10n	.....	.....	0.08	2.0	Light snow.	Capt. Ashe, R. N
*Rockliffe, Ontario	29.26	743.2	29.75	755.6	22	— 5.6	86	Calm	0	0	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow.	W. H. McIntyre.
St. Andrews, N. B	29.85	758.2	29.90	759.4	26	— 3.3	89	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	29.74	755.4	29.91	759.7	32	0.0	79	S	22	9.8	.....	.....	10ks	.....	.....	0.020	0.51	Overcast.....	G. Murdock, C. E.
*Saugeen, Ontario	29.04	737.6	29.79	756.7	25	— 3.9	89	SW	25	11.2	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy.....	K. Stewart.
Stayner, Ontario	29.00	.36 6	29.83	757 7	21	— 6.1	87	SE	4	1.8	.....	.....	10n	.....	SE	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.52	724.4	29.87	758.7	19.4	— 7.0	95	SW	15	6 7	.....	.....	10s	.....	.....	.....	.....	Snowing.....	C. J. MacGregor, M. A
*Sydney, C. B	29.99	761.7	30.03	762.7	27	— 2.8	83	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.49	749.0	29.90	759.4	24	— 4.4	90	SW	12	5.4	.....	.....	10ks	.....	Calm	Inap.	Inap.	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.80	756.9	29.90	759.4	30.0	— 1.1	95	SW	11	4.9	.....	.....	10	.....	.....	0	0	Overcast.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	23.0	— 5.0	.....	S	.....	.....	.....	.....	10	.....	.....	0.10	2.5	Overcast.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.77	756.1	30.01	762.2	23	— 5.0	86	S	12	5.4	.....	5cs	Haze	SW	.....	0.04	1.0	Fair	
Alpena, Michigan	29.10	739.1	29.79	756 7	15	— 9.4	82	W	8	3.6	.....	.....	8s	.....	W	0	0	Cloudy	
Atlanta, Georgia	29.03	737.3	30.21	767.3	42	5.6	83	SE	10	4.5	.....	.....	10s;sme	.....	Calm	0	6	Cloudy	
Atlantic City, New Jersey	30.16	766.1	30.18	766.6	31	— 0.6	89	SW	6	2.7	.....	0	8s	.....	W	0	0	Cloudy	
Augusta, Georgia	30.18	766 6	30.37	771.4	35	1.7	70	Calm	0	0	.....	.....	10s;sme	.....	S	0	0	Smoky	
Baltimore, Maryland	30.10	764.5	30.15	765.8	31	— 0.6	95	S	1	0.4	.....	8ck	Fog	NW	Calm	0.02	0.5	Fair	
Barnegat, New Jersey	30.14	765 5	30.16	766.1	29	— 1.7	78	SW	12	5.4	.....	2k	5s	W	Calm	Inap.	Inap.	Fair	
Bismarck, Dakota	28.29	718.6	30.14	765.5	— 6	—21.1	100	NW	8	3.6	.....	1c	0	N	.....	Inap.	Inap.	Clear	
Boerne, Texas	28.53	724.6	29.91	759.4	34	1.1	79	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Boise City, Idaho	27.53	699.2	30.49	774.4	17	— 8.3	75	S	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Boston, Massachusetts	29.87	758.7	30.04	762.8	35	1.7	53	SW	17	7.6	.....	.....	10s;hz	.....	SW;Calm	0	0	Cloudy	
Brackettville, Texas	28.92	734.6	29.99	761.7	36	2.2	80	NW	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Breckenridge, Minnesota	29.10	739.1	30.23	767.8	— 4	—20.0	100	N	5	2.2	.....	0	1ks	.....	Calm	Inap.	Inap	Clear	
Brownsville, Texas	29.84	757.9	29.91	759.7	57	13.9	94	W	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.19	741.4	29.92	760 0	25	— 3.9	87	SW	9	4.0	.....	.....	10n	.....	SW	0.02	0.5	Light snow	
Burkes, Arizona	.....	.....	.....	.....	34	1.1	16	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.62	752.3	29.92	760.0	23	— 5.0	86	S	12	5.4	.....	.....	10s	.....	SW	0	0	Threatening	
Cairo, Illinois	29.80	756.9	30.22	767.6	31	— 0.6	89	NW	5	2.2	.....	.....	10s	.....	NW	0.69	17.5	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	23	— 5.0	86	N	8	3.6	.....	2ck	0	.....	.....	0.32	8.1	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	20	— 6.7	27	N	.....	.....	1	0	0	.....	.....	0.06	1.5	Clear	
Campo, California	27.72	704 1	30.29	769.4	32	0.0	79	E	8	3.6	.....	0	0	.....	.....	0.37	9.4	Clear	
Cape Hatteras, N. Carolina	30.40	772.1	30.41	772.4	41	5.0	82	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Cape Henry, Virginia	30.24	768.1	30.26	768.6	36	2.2	80	SW	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.37	771.4	30.39	771.9	44	6.7	84	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape May, New Jersey	30.16	766.1	30.19	766.8	33	0.6	79	S	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29 20	741.7	29.93	760.2	40	4.4	82	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.33	770.4	30.40	772.1	40	4.4	65	N	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	— 1	—18.3	100	NW	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.28	743.7	30.02	762.5	18	— 7.8	68	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cincinnati Ohio	29.38	746.2	30.06	763.5	32	0.0	89	NW	3	1.3	.....	.....	10n	.....	NW	0.43	10.9	Light snow	
Cleveland, Ohio	29.24	742.7	30.00	762.0	25	— 3.9	87	SW	10	4.5	.....	.....	10n	.....	Calm	0.11	2.8	Light snow	
Coleman City, Texas	28.27	718.0	30.04	763.0	26	— 3.3	88	N	26	11.6	.....	.....	10s	.....	N	0	0	Cloudy	
Columbus, Ohio	29.13	739.9	30.00	762.0	29	— 1.7	89	SW	4	1 8	.....	.....	10n	.....	Calm	0.14	3.6	Light snow	
Corpus, Texas	28.17	715.5	29.96	761.0	26	— 3.3	88	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Corsicana, Texas	29.00	751.8	30.09	764.3	36	2.2	90	N	10	4.5	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Davenport, Iowa	29.50	749.3	30.22	767.6	2	—16.7	72	W	9	4.0	.....	Haze	4s	Calm	W	Inap.	Ina	Fair	
Deadwood, Dakota	25.37	644.4	.....	.....	14	—10.0	82	NW	3	1.3	.....	5k	0	NW	.....	0.05	1.3	Fair	
Decatur, Texas	28.81	731 8	30.06	763.5	27	— 2.8	76	N	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Denison, Texas	29.30	744.2	30.14	765.5	28	— 2 2	88	N	12	5.4	.....	10k	0	N	.....	0.18	4.6	Cloudy	
Denver, Colorado	24.90	632.4	30.12	765.0	— 7	—21.7	59	S	4	1.8	.....	0	0	.....	.....	0 09	2 3	Clear	
Des Moines, Iowa	29.31	744.5	30.30	769.6	0	—17.8	70	NW	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	
Detroit, Michigan	29.21	741.9	29.93	759.7	24	— 4.4	87	SW	9	4 0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Dodge City, Kansas	27.63	701.8	30.17	766.3	9	—12.8	78	N	12	5.4	.....	0	5ks	.....	W	0 01	0.3	Light snow	
Dubuque, Iowa	29.38	746.2	30.16	766.1	2	—16.7	41	NW	8	3.6	.....	0	0	.....	.....	0.01	0 3	Clear	
Duluth, Minnesota	29.30	744.2	30.07	763.8	— 4	—20.0	65	W	12	5.4	.....	0	0	.....	.....	0.07	1.8	Clear	
Eagle Pass, Texas	29.22	742.2	29.99	761.7	40	4.4	73	NW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.84	757.7	29.90	759 4	33	0.6	79	S	10	4.5	.....	.....	10ks;hz	.....	SW; alm	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	45	7.2	60	Calm	0	0	.....	.....	10n	.....	Calm	0.74	18.8	Heavy snow	
Erie, Pennsylvania	29 19	741.4	29.94	760.5	28	— 2.2	88	SW	11	4.9	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Escanaba, Michigan	29.16	740.7	29.85	758.2	13	—10.6	81	NW	16	7.2	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Florence, Arizona	28.81	731.8	30.41	772.4	28	— 2.2	77	SW	.....	.....	1	0	0	.....	.....	0.23	5.8	Clear	
Fort Craig, New Mexico	25.52	648.2	29.58	751 3	20	— 6.7	100	N	20	8.9	.....	.....	10n	.....	Calm	0.24	6.1	Cloudy	
Fort Davis, Texas	25.13	638.3	30.09	764.3	22	— 5.6	100	NE	12	5.4	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow	
Fort Gibson, Indian Ter	29.63	752 6	30.20	767.1	25	— 3.9	87	N	8	3.6	.....	.....	10s	.....	N	0.80	20.3	Cloudy	
Fort Griffin, Texas	28.90	734.0	30.26	768 6	26	— 3.3	88	N	16	7.2	.....	.....	10n	.....	Calm	0.07	1.8	Light snow	
Fort McKavett, Texas	27.77	705.4	29.80	756.9	28	— 2.2	77	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.97	735.8	30.16	766.1	23	— 5.0	86	N	30	13.4	.....	.....	10s	.....	N	0.51	13.7	Cloudy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.27	718 0	29.91	759.7	32	0.0	89	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Galveston, Texas	29.86	758.4	29.90	759.4	59	15.0	100	SE	4	1.8	.....	.....	10n	.....	SE	0.22	5.6	Light rain	
Graham, Texas	29 07	738 4	30.20	767.1	25	— 3.9	87	N	14	6 3	.....	.....	10s	.....	N	0	0	Cloudy	
Grand Haven, Michigan	29.24	742.7	29.91	759.7	27	— 2.8	76	NW	20	8.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Indianapolis, Indiana	29.22	742.2	30.04	7 3.0	28	— 2.2	77	W	3	1.3	.....	.....	10s	.....	Calm	0 24	6.1	Cloudy	
Indianola, Texas	29.88	758.9	29.91	759.7	48	8.9	100	N	18	8.0	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Jacksboro, Texas	28.88	736 1	30.19	766.8	25	— 3.9	87	N	20	8.9	.....	.....	10s	.....	NE	0.15	3.8	Cloudy	
Jacksonville, Florida	30.34	770.6	30.36	771.1	46	7.8	77	Calm	0	0	.....	10k	0	S	.....	0	0	Cloudy	
Keokuk, Iowa	29.52	749.8	30.21	767.3	6	—14.4	76	NW	10	4.5	.....	0	4s	.....	NW	Inap.	Inap.	Fair	
Key West, Florida	30.19	766.8	30.22	767.6	67	19.4	69	E	11	4.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Kittyhawk North Carolina	30.33	770.4	30.36	771.1	34	1.1	79	SW	12	5.4	.....	8cs	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.19	741.4	30.26	768.6	28	— 2.2	88	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
La Crosse, Wisconsin	29.31	744.5	30.13	765.3	3	—16.1	73	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap	Clear	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	24	— 4.4	88	NE	1	0.4	.....	.....	10n	.....	NE	0.30	7.6	Light snow	
Laredo, Texas	29.54	750.3	30.10	764.5	42	5.6	100	NW	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Light rain	
Leavenworth, Kansas	29.38	746.2	30.34	770 6	6	—14 4	76	NW	10	4 5	.....	4c	0	W	.....	0	0	Fair	
Los Angeles, California	30.01	762.2	30.37	771 4	43.0	6.4	36	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.49	749.0	30.07	763.8	35	1.7	70	SW	3	1.3	.....	.....	10n	.....	Calm	0.62	15.7	Light snow	
Lynchburg, Virginia	29.47	748.5	30.18	766.6	36	2.2	70	SW	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	28.97	735.8	30.05	763.3	5	—15.0	75	W	16	7.2	.....	0	0	.....	.....	0.03	0.8	Clear	
Marquette, Michigan	29.06	738.1	29.81	757.2	12	—11.1	89	SW	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.40	721.3	30.27	768.8	34	— 1.1	89	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Memphis, Tennessee	29.78	756.4	30.12	765.0	35	1.7	100	NW	5	2.2	.....	.....	10n	.....	Calm	0.75	19.1	Light rain	
Milwaukee, Wisconsin	29 19	741.4	29.97	761.2	12	—11.1	81	W	20	8.9	.....	0	1s	.....	Calm	Inap.	Inap	Clear	
Mobile, Alabama	30.10	764 5	30.14	765.5	47	8.3	92	E	4	1.8	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29 94	760 5	30.18	766.6	44	6.7	59	SE	1	0.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
Morgantown, West Virginia	28.92	734.6	29.99	761 7	41	5.0	91	S	3	1.3	.....	.....	10n	.....	Calm	0.04	1.0	Sleeting	
Mt. Washington, N. H.	23.24	590.3	29.60	751.8	5	—15.0	100	NW	72	32.2	.....	.....	10n	.....	NW	0.15	3.8	Light snow	
Nashville, Tennessee	29.56	750.8	30.11	764.8	39	3.9	100	Calm	0	0	.....	.....	10n	.....	Calm	0.35	8 9	Light rain	
New Haven, Connecticut	30.00	762.0	30.13	765 3	33	0 6	79	SW	11	4.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
New London, Connecticut	30.05	763.3	30.10	764.5	30	— 1.1	78	SW	9	4.0	.....	.....	10n	.....	Calm	Inap	Inap.	Light snow	
New Orleans, Louisiana	29.94	760.7	30.05	763.3	56	13.3	94	SE	8	3.6	.....	.....	10n	.....	SE	0.10	2.5	Light rain	
Newport, Rhode Island	30.05	763.3	30.10	764.5	36	2.2	71	SW	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
New York, New York	29 97	761.2	30.16	766.1	26	— 3.3	100	W	12	5.4	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Norfolk, Virginia	30.24	767 8	30.29	769.4	34	1.1	70	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.36	692.4	30.14	765.5	1	—17.2	71	NW	12	5.4	.....	10k	0	Calm	.....	0	0	Cloudy	
Olympia, Washington Ter.	30.22	767.6	30.27	768.8	34	1.1	90	S	7	3.1	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	29.08	738.6	30.32	770.1	3	—16.1	73	W	9	4.0	.....	2cs	0	Calm	....	0	0	Clear	
Oswego, New York	29.63	752.6	29.96	761.0	35	1.7	80	S	8	3.6	.. ....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.23	742.4	30.90	767.1	—17	—27.2	100	NW	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	
Philadelphia, Pa	30.10	764.5	30.15	765.8	32	0.0	79	SW	13	5.8	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
Phœnix, Arizona	29.14	740.1	31.07	789.2	37	2.8	38	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.38	441.4	29.59	751.6	—13	—25.0	23	SW	20	8.9	.....	0	1s	.....	Calm	0.14	3.6	Clear	
Pioche, Nevada	24.23	615.4	30.00	762.0	9	—12.8	57	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.14	740.1	29.98	761.5	32	0.0	89	S	4	1.8	.. ....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Port Huron, Michigan	29.19	741.4	29.88	758.9	22	— 5.6	86	SW	14	6.3	.....	.....	10n	.....	Calm	0.12	3.0	Light snow.	
Portland, Maine	29.91	759.7	29.96	761.0	24	— 4.4	87	W	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Portland, Oregon	30.36	771.1	30.47	773.9	34.5	1.4	80	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Prescott, Arizona	24.68	626.9	30.04	763.0	12	—11.1	61	NW	2	0.9	.....	0	0	.....	.....	0.36	9.1	Clear	
Pilot Point, Texas	29.05	737.9	29.93	760.2	19	— 7.2	86	NW	10	4.5	.....	8c	2s	N	NW	0.01	0.3	Cloudy	
Punta Rassa, Florida	30.27	768.8	30.29	769.4	58	14.4	70	E	6	2.7	.....	10k	0	SE	.....	0	0	Cloudy	
Red Bluff, California	30.09	764.3	30.47	773.9	39	3.9	38	N	6	2.7	.....	10c	0	Calm	.....	0	0	Cloudy	
Rio Grande City, Texas	29.74	755.4	29.97	761.2	47	8.3	92	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.31	744.5	29.96	761.0	25	— 3.9	87	SW	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Roseburg, Oregon	29.92	760.0	30.54	775.7	28.0	— 2.2	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.38	771.6	30.47	773.9	36	2.2	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.59	751.6	30.20	767.1	22	— 5.6	86	W	11	4.9	.....	.....	10ks;s	.....	W;Calm	0.38	9.7	Cloudy	
St. Marks, Florida	30.27	768.8	30.29	769.4	48	8.9	78	E	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
St. Paul, Minnesota	29.20	741.7	30.11	764.8	3	—16.1	73	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.95	659.1	30.28	769.1	12	—11.1	80	NE	5	2.2	.....	2c	0	Calm	.....	0	0	Clear	
San Antonio, Texas	29.29	744.0	29.90	759.4	40	4.4	82	N	14	6.3	.....	.....	10	.....	S	0.02	0.5	Threatening	
San Diego, California	30.33	770.4	30.41	772.4	38.7	3.7	54	NE	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Sandusky, Ohio	29.28	743.7	29.98	761.5	26	— 3.3	88	SW	12	5.4	.....	.....	10n	.....	Calm	0.09	2.3	Light snow.	
Sandy Hook, New Jersey	30.12	765.0	30.15	765.8	27	— 2.8	88	SW	8	3.6	.....	.....	10ks	.....	SW	0.03	0.8	Cloudy	
San Francisco, California	30.40	772.1	30.46	773.7	43.3	6.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.18	588.8	29.72	754.9	10	—12.2	100	NW	2	0.9	.....	.....	10n	.....	Calm	0.18	4.6	Light snow.	
Savannah, Georgia	30.27	768.8	30.37	771.4	41	5.0	74	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy	
Shreveport, Louisiana	29.82	757.4	30.04	763.0	37	2.8	100	N	4	1.8	.....	.....	10n	.....	Calm	0.56	14.2	Light rain	
Silver City, New Mexico	24.20	614.7	30.68	779.3	22	— 5.6	72	W	2	0.9	.....	..	10s	.....	Calm	0.39	9.9	Cloudy	
Smithville, North Carolina	30.52	775.2	30.56	776.2	17	— 8.3	83	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.93	760.2	30.07	763.8	36	2.2	75	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	27.02	686.3	30.02	762.5	26	— 3.3	88	N	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.97	761.2	30.02	762.5	31	— 0.6	89	SW	30	13.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Toledo, Ohio,	29.24	742.7	29.94	760.5	27	— 2.8	88	S	10	4.5	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Tucson, Arizona	.....	.....	.....	.....	31	— 0.6	49	S	2	0.9	.....	0	0	.....	.....	0.81	20.6	Clear	
Tybee Island, Georgia	30.34	770.6	30.37	771.4	43	6.1	83	NE	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Umatilla, Oregon	30.08	764.0	30.62	777.7	25.0	— 3.9	87	W	6	2.7	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	30	— 1.1	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.12	739.6	29.96	761.0	35	1.7	70	NE	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy	
Vicksburg, Mississippi	29.78	756.4	30.05	763.3	45	7.2	100	NE	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Virginia City, Montana	24.34	618.2	29.82	757.4	6	—14.4	76	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	30.09	764.3	30.49	774.4	32.5	0.3	84	SE	5	2.2	.....	Haze	0	Calm	.....	0	0	Hazy	
Washington, D. C	30.02	762.5	30.14	765.5	34	1.1	61	S	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	30	— 1.1	57	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.29	769.4	30.37	771.4	40	4.4	64	SE	3	1.3	.....	8c	Sm'e	W	.....	0	0	Fair	
Winnemucca, Nevada	26.02	660.9	30.38	771.6	2	—16.7	72	SW	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Wood's Holl, Mass	30.04	763.0	30.08	764.0	39	3.9	55	SW	28	12.5	.....	.....	10s	.....	Calm	0	0	Threatening	
Yankton, Dakota	28.95	735.3	30.41	772.4	— 1	—18.3	68	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.21	767.3	30.39	771.9	41	5.0	19	W	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.56	725.4	30.05	763.3	21	— 6.1	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B, Gordon.
Havana, Cuba, W. I	30.15	765.8	30.17	766.3	64	17.8	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.23	767.8	30.24	768.1	74	23.3	90	Calm	0	0	.....	2c	2s	Calm	NE	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	30.00	762.0	30.08	764.0	78	25.6	.....	NE	14.6	6.5	.....	.....	.....	.....	.....	0	0	Partly clo'dy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	80	26.7	87	E	.....	.....	3	.....	8ks	E	.....	0.210	5.33	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.19	766.8	30.24	768.1	—31.5	—35.3	.....	W	3	1.3	.....	0	2s	.....	NW	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,533 (?) ft., or 467.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,400 (?) ft., or 1,036.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Poise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.37	771.4	43	6.1	41	5.(	57	SSE	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.25	768.3	50	10.0	50	10.(	86	NE	20	8.9	.....	.....	10	.....	S	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.00	762.0	57	13.9	26	— 3.3	88	SSW	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Naval Hospital Yokohama, Japan *	30.00‡	762.0‡	.....	.....	44	6.7	71	SW	.....	.....	2	.....	2c;fg;hz	.....	W	0	0	.....	.....	Fair.....	
Alaska, Panama	30.09	764.3	79	26.1	77	25.(	91	W	.....	.....	1	.....	5	.....	SE	0	0	.....	.....	D. clouds.....	
Alliance, Smyrna, Turkey	29.64‡	752.8‡	.....	.....	54	12.2	61	W	.....	.....	4–6	.....	7	.....	W	.....	.....	.....	.....	Rainy	
Ashuelot. N. 13° 43′, E. 100° 29′	30.01	762.2	82	27.8	81	27.2	70	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Canonicus, New Orleans, La.	30.03	762.8	44	6.7	57	13.9	87	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Raining.....	
Colorado. New York, N. Y.	30.10	764.5	29	— 1.7	27	— 2.8	100	SW	8	3.6	.....	.....	10	.....	SW	0.05	1.3	.....	.....	Hazy.....	
Constitution, Havre, France	29.25‡	742.9‡	.....	.....	32	0.0	100	E	.....	.....	6	.....	10	.....	Calm	.....	.....	.....	.....	Squally.....	
Despatch, Constantinople, Turkey	29.51‡	749.5‡	.....	.....	50	10.(	72	SW	.....	.....	3–5	.....	5	.....	SW	.....	.....	.....	.....	Rain-squalls	
Franklin, Norfolk, Va.	30.44	773.2	74	23.3	39	3.9	34	S	8.4	3.8	.....	.....	8	.....	S	0	0	.....	.....	Cloudy.....	
Gettysburg, Villafranca, France	29.73‡	755.1‡	.....	.....	42	5.6	91	Var.	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Showery.....	
Hartford, Montevideo, Uruguay	29.79	756.7	72	22.2	69	20.6	90	NNE	11.0	4.9	.....	.....	8	.....	.....	0.58	14.7	Smooth	.....	Fair	
Lackawana, N. 8° 38′, W. 83° 53′	29.76‡	755.9‡	.....	.....	84	28.9	91	Calm	.....	.....	0	.....	2	.....	.....	0	0	Light	SW	Clear.....	
Michigan, Erie, Pa.	29.98‡	761.5†	.....	.....	27	— 2.8	88	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Yokohama, Japan *	29.99‡	761.7‡	.....	.....	40	4.4	82	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Fair?.....	
New Hampshire, Port Royal, S. C.	30.46†	773.7†	.....	.....	44	6.7	84	NE	10	4.5	.....	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	68	20.0	78	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.55	776.0	30	— 1.1	25	— 3.9	87	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	34	1.1	79	SW	.....	.....	4	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Pensacola, N. 7° 10′, W. 81° 38′	29.90‡	759.4‡	.....	.....	78	25.6	100	ENE	1.0	0.4	....	.....	5	.....	.....	0	0	Smooth	SE	Fair.....	
Powhatan, Norfolk, Va.	30.28	769.1	35	1.7	35	1.7	63	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Quinnebaug, Norfolk, Va.	30.33‡	770.4‡	.....	.....	35	1.7	.....	SW	.....	.....	2	.....	10	.....	WNW	.....	.....	.....	.....	Cloudy.....	
Richmond, Brooklyn, N. Y.	30.16†	766.1‡	.....	.....	29	— 1.7	100	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	.....	Misty.....	
Rio Bravo, Brownsville, Texas	29.84	757.9	63	17.2	57	13.9	100	W	.....	.....	3	.....	8	.....	S	.....	.....	.....	.....	Threatening	
Santee, Annapolis, Md.	30.14‡	765.5‡	.....	.....	38	3.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
St. Louis, League Island, Pa.	30.06	763.5	58	14.4	29	— 1.7	.....	SW	8	3.6	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy.....	
Supply, N. 47° 19′, W. 8° 09′	29.09	738.9	.....	.....	53	11.7	86	NW	.....	.....	5	.....	8	.....	NW	.....	.....	Long	NW	Cloudy.....	
Trenton Villafranca, France *	29.56‡	750.8‡	.....	.....	43	6.1	83	ENE	.....	.....	2	.....	10	.....	ENE	0.30	7.6	.....	.....	Cloudy.....	
Tuscarora. N. 12° 13′, W. 86° 59′	30.00‡	762.0‡	.....	.....	80	26.7	79	E	.....	.....	2	.....	10s	.....	W	0	0	Smooth	.....	Misty.....	
Vandalia, N. 32° 48′, W. 71° 59′	30.45‡	773.4‡	.....	.....	56	13.3	63	SW	.....	.....	1	.....	2	.....	NW	.....	.....	Smooth	.....	Clear.....	
Wabash, Boston, Mass.	30.13‡	765.3‡	.....	.....	30	— 1.1	.....	S	18	8.0	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			
S. S. Grenada, N. 25° 00', W. 112° 45'		30.35†	770.9†	62	16.7	??	NNE			6		k		N	0	Mod'ate	NNW	Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.88	759 9				NE			1–2		0						Clear.	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off'r
S. S. Gaelic, Yokohama, Japan		29.77†	756.1†	54	12.2	??	N			3		c		Var.	0			D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 38° 0' W. 70° 40'		30.35	770.9	54.5	12.5		SW			6		5		W	0	2	W	Cloudy	Capt. F. Pfeiffer.
S. S. Nuraberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware River		30.07*	763.8*	34	1.1	100	SSW			6		7		W	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool		29.70†	754.4†	38	3.3	??	ESE			4		8		ESE	0			Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, Off Chebucto Head, N. S.		29.88*	758.9*	33.5	0.8		WSW			5		10s		W	0			Overcast	Capt. W. Richardson.
S. S. Hibernian,																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgenser

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the clone direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

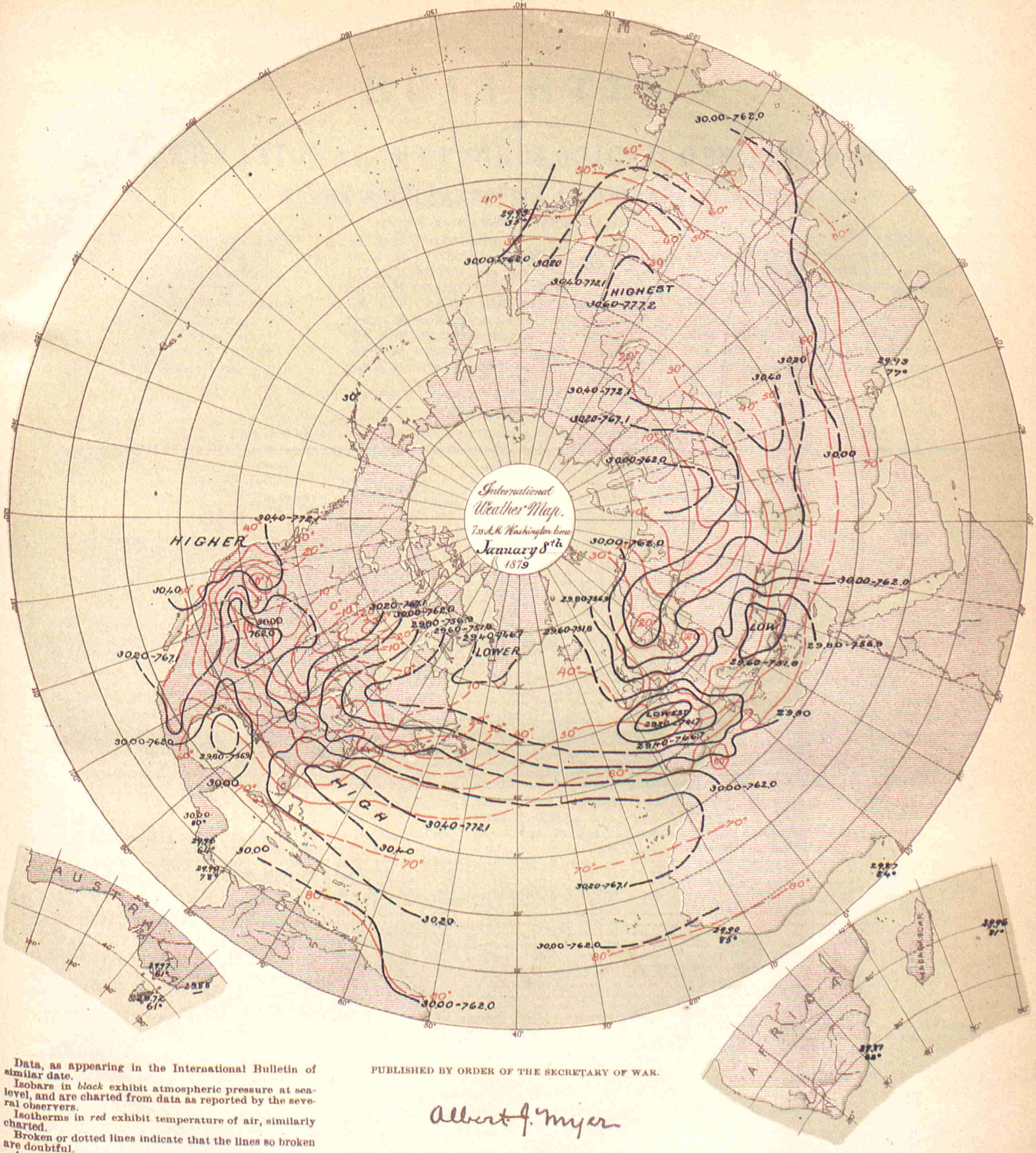
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 9, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.23	767.7	62.8	17.1	82	NE	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair..	
Nemours	.....	.....	29.95	760.8	61.7	16.5	72	WNW	.....	.....	6	.....	10	.....	.....	0.244	6.2	Covered.....	Kesxuche.
Algiers	.....	.....	29.59	751.5	58.6	14.8	74	WNW	.....	.....	7	.....	5	.....	.....	0.098	2.5	Cloudy.....	Tourfiere.
La Calle	.....	.....	29.62	752.4	55.2	12.9	70	NW	.....	.....	7	.....	10	.....	.....	0.276	7.0	Raining.....	Foufrede.
Tunis	.....	.....	29.47	748.5	61.0	16.1	56	W	.....	.....	5	.....	8	.....	.....	0.098	2.5	Very cloudy	Jacques.
Sfax	.....	.....	29.72	755.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.85	758.2	58.1	14.5	58	SW	.....	.....	6	.....	5	.....	.....	0.374	9.5	Cloudy.....	Herbin.
Tebessa	.....	.....	29.67	753.7	47.1	8.4	70	W	.....	.....	6	.....	8	.....	.....	0.071	1.8	Very cloudy	Watrin.
Geriville	.....	.....	29.86	758.5	53.1	11.7	79	NNW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	29.77	756.2	52.9	11.6	44	SE	.....	.....	9	.....	5	.....	.....	0	0	Cloudy.....	Bertrand.
Biskra	.....	.....	29.97	761.3	60.8	16.0	47	NW	.....	.....	6	.....	5	.....	.....	0	0	Cloudy.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.17	740.8	29.74	755.5	26.6— 3.0	91	NE	.....	.....	2	.....	10	.....	.....	0.441	11.2	Snowing.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.17	740.9	29.98	761.5	24.8— 4.0	98	ENE	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	Dr. Wierzbiski
Eperies	28.98	736.0	29.91	759.7	23.9— 4.5	79	N	.....	.....	1	.....	1cs	.....	.....	0.138	3.5	.....	Julius Mikolik.
Gratz	28.53	724.7	29.86	758.4	23.4— 4.8	83	S	.....	.....	2	.....	10	.....	.....	0.028	0.7	.....	Andreas Rospini.
Hermannstadt	28.41	721.6	29.94	760.4	19.4— 7.0	100	SE	.....	.....	1	.....	4	.....	.....	0.033	0.85	.....	Prof. A. Gottschling.
Kremsmünster	28.31	719.0	29.73	755.2	20.7— 6.3	95	ENE	.....	.....	7	.....	10	.....	.....	0.028	0.7	.....	Prof. C. Wagner.
Lemberg	28.86	733.1	29.92	759.9	21.9— 5.6	85	S	.....	.....	1	.....	10	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	29.25	742.9	29.36	745.8	31.6— 0.3	94	ENE	.....	.....	8	.....	10	.....	.....	0	0	.....	I. R. Hydrographic Office.
Szathmar	29.45	748.0	29.94	760.5	28.2— 2.1	85	E	.....	.....	8	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.51	749.6	29.81	757.1	26.2— 3.2	91	NE	.....	.....	2	.....	10	.....	.....	0.252	6.40	.....	Karl Stancel.
Trieste	29.37	746.0	29.47	748.6	28.2— 2.1	81	ENE	.....	.....	8	.....	10	.....	.....	Inap.	Inap.	Snowing.....	P. Busin.
Vienna	29.13	739.9	29.89	759.3	22.8— 5.1	93	E	.....	.....	2	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, m. p. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force —10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.13	765.3	30.23	767.8	36.5	2.5	.....	SSE	25	11.2	.....	.....	9	.....	.....	0.020	1.27	Squally	W. Boswell.
Ardrossan	30.08	764.0	30.03	764.3	37	2.8	.....	ESE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	29.99	761.7	35.3	1.8	.....	SE	21	9.4	.....	.....	7	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.10	764.5	34.0	1.1	.....	ESE	16	7.2	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton	.....	.....	30.10	764.5	32.8	0.4	.....	ESE	12.0	5.4	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.72	754.9	30.11	764.8	34.4	1.3	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.08	764.0	35.0	1.7	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. Todd. [C.
Cardington	.....	.....	30.09	764.3	33.0	0.6	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.90	759.4	30.03	762.8	35.7	2.1	.....	NE	.....	.....	4	.....	7	.....	.....	.....	.....	Snowing	Lt. W. G. Morris, R.E.
Dartmoor	28.40	721.3	29.94	760.5	28.4	— 2.0	.....	SE	.....	.....	4	.....	6	.....	.....	.....	.....	Snowing	Alexander Watt.
Donaghadee	29.99	761.7	30.04	763.0	36	2.2	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	35	1.7	.....	E	.....	.....	5	.....	5	.....	.....	.....	.....	½ covered	J. Costello.
Falmouth, Observatory	29.71	754.6	29.95	760.7	38.4	3.6	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.58	700.5	29.89	759.2	69.0	20.6	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.75	755.6	29.98	761.5	85	29.4	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.72	754.9	35	1.7	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.99	761.7	30.05	763.3	58.9	14.9	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.92	760.0	30.12	765.0	36.0	2.2	.....	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.05	763.3	30.06	763.5	34	1.1	.....	E	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.87	758.7	30.05	763.3	34.2	1.2	.....	E	.....	.....	3	.....	9	.....	.....	.....	.....	Snowing	The Staff, for G. B. Airy
Guernsey	29.75	755.6	29.98	761.5	35	1.7	.....	ENE	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.84	757.9	29.97	761.2	39	3.9	.....	E	.....	.....	4	.....	10k	.....	.....	0	0	Gloomy	M. P. Moyle.
Holyhead	29.96	761.0	30.01	762.2	32	0.0	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.68	753.9	29.99	761.7	33.8	1.0	.....	ENE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	30.02	762.5	30.06	763.5	34.0	1.1	.....	ENE	15	6.7	.....	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Kingstown	29.94	760.5	29.97	761.2	36	2.2	.....	SE	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	29.83	757.7	30.10	764.5	33.3	0.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J Harrison, F.G.S.
Malta, (Mediterranean)	29.37	746.0	29.45	748.0	64	17.8	.....	SW	.....	.....	1	.....	6s	.....	.....	.....	.....	Fine	Sergt. Beckett, A. H. C.
Nairn	30.06	763.5	30.15	765.8	35	1.7	.....	SSE	.....	.....	1	.....	5	.....	.....	.....	.....	½ covered	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.16	766.1	70.7	21.4	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.92	760.0	30.12	765.0	33.8	1.0	.....	SE	.....	.....	2	.....	10k	.....	E	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.56	750.8	30.10	764.5	32.0	0.0	.....	E	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.06	763.5	32	0.0	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.91	759.7	29.99	761.7	34.0	1.1	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	John Merrifield.
Roche's Point	29.78	756.4	29.83	757.7	39	3.9	.....	SE	.....	.....	7	.....	8	.....	.....	.....	.....	¾ covered	W. Kennedy.
Saint Ann's Head	29.91	759.7	29.98	761.5	34	1.1	.....	ESE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	30.17	766.3	37	2.8	.....	SE	34	15.2	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.96	761.0	54.0	12.2	.....	ESE	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	Sergt. W. H. Lyne.
Sheffield	29.84	757.9	30.14	765.5	31.2	0.4	.....	NE	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Overcast	W. F. Cooper.
Silloth Rectory	30.10	764.5	30.13	765.3	35.5	1.9	79	SE	.....	.....	4	.....	7	.....	.....	0	0	D. clouds	F. H. Redford.
Stonyhurst Observatory	29.72	754.9	30.12	765.0	33.9	1.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Threatning	Rev. S. J. Perry.
Strathfield Turgiss	29.28	743.7	29.50	749.3	32.0	0.0	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Rev. C. H. Grania, F.M.S
Thurso	30.10	764.5	30.16	766.1	37	2.8	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.90	759.4	39	3.9	.....	SE	.....	.....	9	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.53	750.0	29.56	750.8	41.9	5.5	.....	SE	61	27.2	.....	.....	10	.....	.....	.....	.....	Squally	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	60.0	15.6	88	S	.....	.....	2	.....	9k	.....	.....	0.01	0.3	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.20	767.1	35.8	2.1	.....	SE	.....	.....	3	5ck	.....	.....	.....	0	0	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.80	756.9	29.99	761.6	81.9	27.7	60	SE	15.0	6.7	.....	0	5	.....	SE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.85	758.2	29.94	760.5	58.4	14.7	70	SE	5	2.2	.....	.....	0	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach Light-house, (Hebrides	.....	.....	29.92	760.0	38	3.3	.....	SSE	.....	.....	8	.....	10	.....	.....	0.2	5.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	64.0	17.8	88	NE	.....	.....	1	.....	9s	.....	E	Inap.	Inap.	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.18	766.5	30.23	767.7	27.3	— 2.6	85	E	.....	.....	6	.....	5	.....	.....	.....	.....	.....	.....
Fanöe	30.19	766.9	30.21	767.4	26.8	— 2.9	91	ENE	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	30.14	765.5	30.31	769.8	25.0	— 3.9	89	E	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	29.42	747.2	29.97	761 2	24.1	— 4 4	81	N	.....	.....	3	.....	0	.....	.....	0.012	0.3	Clear	Collignon, Director.
Amiens, Normal School	29.81	757.2	29.93	76 .2	31 3	— 0.4	89	NE	.....	.....	3	.....	8	.....	S	0	0	Very cloudy	Bonvallet, Director.
Avignon, Normal School	29.36	745.6	29.43	747.6	36.5	2 5	72	NNW	.....	.....	4	.....	.....	.....	.....	1.291	32.8	.....	M. Giraud, Director.
Bar-sur-Seine	29.2	741.6	29.80	756 8	23.5	— 4.7	65	E	.....	.....	3	2c	.....	.....	E	0.063	1.6	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.65	753.0	29.95	760.6	28.9	— 1.7	.....	ENE	.....	.....	2	.....	10	.....	ENE	0	0	Covered	Frere Eugene Marie, Director.
Besançon, Normal School	28.76	730.6	29.71	754.7	21 6	— 5.8	.....	E	.....	.....	6	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.73	729.8	29.62	752.4	22.1	— 5.5	76	N	.....	.....	2	.....	8n	N	N	0	0	Very cloudy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.66	753.4	29.90	759.5	36.0	2.2	67	E	.....	.....	3	.....	6	.....	E	0.581	14.75	.....	M.de Kermaur, Director.
Carcassonne, Normal School	29.20	741.6	29.62	752.3	39 6	4.2	93	W	.....	.....	3	.....	5	NW	W	0.047	1.2	Cloudy	September, Director.
Caen, Normal School	26.87	758.7	29.95	760.7	29.8	— 1.2	84	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	M. Lair, Director.
Chartres, Normal School	29.29	744 0	29.89	759.2	28.4	— 2	92	N	.....	.....	2	.....	1	.....	W	0	0	Clear	M. Vergier, Director.
Chalons-sur-Marne, N. Sch'l	29.52	749.8	29.86	758.4	28.8	— 1.8	.....	E	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.31	719.1	29.74	755 3	26.6	— 3.0	57	N	.....	.....	1	.....	1	.....	N	0.063	1.6	Clear	Allard, Director.
Commercy, Normal School	28.98	736.1	29.88	759.0	23.2	— 4.9	90	ENE	.....	.....	4	.....	5	.....	ENE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Greasque*	28.22	716.9	29 37	745.9	36 3	2.4	79	W	.....	.....	4	.....	8	NW	N	0.63	16.	Snowing	M. King, Director.
Grenoble, Normal School	28.82	732.0	29.62	752.4	26.6	— 3	.....	NE	.....	.....	1	.....	10n	.....	.....	0	0	Covered	M. Ablard, Director.
La Rochelle-Pon. N. School	29.68	753.8	29 91	759.6	28.8	— 1.8	63	NE	.....	.....	1	.....	5	.....	NW	0.04	1.	Cloudy	Mouillot, Director.
Le Mans, Normal School	29 44	747.7	29.76	755.9	26.4	— 3.1	61	ESE	.....	.....	3	.....	2	.....	N	0	0	Slightly cl'dy	Pourrier, Director.
Lons-Le-Saulnier, N.School	28.67	728.1	29.63	752.7	22.1	— 5.5	69	NE	.....	.....	4	.....	8	.....	NE	0	0	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	29.89	759.1	29.98	761.6	31.6	— 0.2	97	NE	.....	.....	3	.....	.....	N	NE	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.68	728.5	29.76	756.0	20.8	— 6.2	45	SSW	.....	.....	4	.....	k	.....	E	0	0	.....	M. Barbier, Director.
Nismes Normal School	29.34	745.2	29.55	750.5	37.4	3	72	N	.....	.....	2	.....	0	.....	.....	0.148	3.75	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.66	6 6.3	.....	.....	10.8	—11.8	100	NE	.....	.....	3	.....	0	.....	.....	0.421	10 7	Clear	Allnard, Director.
Rochefort, Naval Obs'y	29.82	757.5	29.85	758.3	32.0	0 0	81	ENE	.....	.....	1	.....	2	ENE	ENE	0	0	¾ Covered	Lt. Decante, Director.
Rouen, Normal School	29.88	759.0	29.97	761.2	31.6	— 0.2	63	NE	.....	.....	4	.....	8	.....	NE	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port)	29.92	760.0	29.95	761.8	28.8	— 1.8	66	ESE	.....	.....	2	.....	1	ESE	ESE	0	0	Clear	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.71	754.6	29.87	758.8	29.5	— 1.4	52	NE	.....	.....	2	.....	1	.....	NE	0	0	Clear	E. Renou, Director.
Tarbes, Normal School	28.74	729.9	29.82	757.3	46.4	8	72	W	.....	.....	6	.....	10	.....	.....	0.39	10.	Raining	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	28.95	735.3	29.73	755.1	23.0	— 5	100	N	.....	.....	4	.....	5	.....	N	0.138	3.5	Cloudy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchés.
Lyons, Observatory	.....	.....	29.66	753.4	22.5	— 5 8	45	ESE	.....	.....	2	.....	5	.....	.....	0 256	6.5	.....	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Stad.
Mont-Louis	24 32	617.7	29.63	752.7	33 8	1.0	61	SW	40.9	18.3	.....	.....	2	.....	SE	0.197	5.0	.....	M. Cave.
Nice	.....	.....	29.36	745.8	42 8	6.0	94	NNW	.....	.....	1	.....	10	.....	.....	0.178	4.4	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.59	751.6	.....	.....	28.2	— 2.1	73	NE	.....	.....	6	.....	2	.....	NE	0	0	.....	Marié Davy, Director.
Perpignan	29.48	748.7	29.58	751.4	45.0	7.2	65	NE	22.4	10.0	.....	.....	5	.....	NW	0.213	5.4	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade,) H. P.	22.04	551.5	.....	.....	16.3	— 8.7	.....	N	.....	.....	4-6	.....	10	.....	.....	0.74	19.0	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.02	737.1	29.74	755.3	31.6	— 0.2	97	NW	.....	.....	6	.....	10	.....	.....	.....	.....	.....	M. Mercadier Julier.
Tours	29.71	754.7	29.91	759.7	26 2	— 3.2	.....	NE	.....	.....	2	.....	0	.....	.....	0.173	4.4	Clear	C. Marqué.
Versailles Observatory	.....	.....	29.88	759.0	28.8	— 1.8	.....	NE	.....	.....	4	.....	8	.....	.....	0	0	Fair	Dr. A. Périgny, Director.
Zi-Ka-Wei, (near Shanghai)	30.63	778.0	30.66	778.7	33.6	0.9	89	N	6.3	2.8	.....	.....	10k	.....	.....	0	0	Covered	Marc Doclevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4. Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters or 1,272.9 feet. Commune de Grésque, 322 m., or 1,056.1 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.97	735.7	29.80	756.9	19.4	— 7.0	78	NE	.....	.....	8	.....	4	NE	.....	Inap.	Inap.	.....	Prof. Dr. Hoh.
Berlin	29.85	758.2	30.04	762.9	23.4	— 4.8	80	NE	.....	.....	2	.....	8	.....	.....	0.055	1.4	.....	Prof. Arndt.
Breslau	29.48	748.8	30.01	762.3	24.3	— 4.3	81	E	.....	.....	3	.....	10	.....	.....	0.007	0.18	.....	Royal University Obs'y
Carlsruhe	29.37	745.9	29.83	757.4	22.6	— 5.2	78	NE	.....	.....	6	.....	1	NE	.....	0	0	.....	Albert Senz.
Cassel	29.36	745.6	29.96	761.0	22.6	— 5.2	91	NNE	.....	.....	2	.....	10	N	.....	0.089	2.26	Snowing.....	Dr. H. Möhl.
Crefeld	29.78	756.4	29.94	760.5	25.7	— 3.5	73	NE	.....	.....	5	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	26.4	— 3.1	97	ENE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.51	749.6	29.89	759.1	25.9	— 3.4	.....	NE	.....	.....	3	.....	6	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.21	716.4	29.73	755.1	17.2	— 8.2	59	NE	.....	.....	8	.....	10	NE	.....	0.016	0.4	Light snow..	M. Wilhelm.
Hamburg	30.07	763.8	30.15	765.7	22.3	— 5.4	85	ENE	.....	.....	4	.....	5cs	.....	.....	0.008	0.2	Fine.....	Captain F. Hegemann
Kiel	30.14	765.5	30.15	765.9	29.1	— 1.6	85	E	.....	.....	2	.....	1	.....	.....	0.026	0.65	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.17	766.4	30.26	768.7	16.2	— 8.8	82	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. E Luther.
Köslin	.....	.....	30.15	765.8	22.1	— 5.5	.....	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.56	750.9	30.01	762.3	20.8	— 6.2	84	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.28	769.0	30.32	770.2	14.0	—10.0	87	NNE	.....	.....	2–3	.....	7cs	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	30.23	767.9	30.25	768.3	26.6	— 3.0	53	NE	.....	.....	4	.....	7	.....	.....	0.008	0.2	.....	A. Lothes.
Posen	29.84	758.0	30.15	765.9	22.1	— 5.5	85	E	.....	.....	6	.....	1?	.....	.....	0.008	0.2	Snowing?....	Dr. Magener.
Strassburg (in Alsace)	29.24	742.6	29.82	757.5	20.7	— 6.3	61	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	28.78	731.0	29.78	756.5	18.7	— 7.4	69	NE	.....	.....	2	.....	9	.....	.....	0.024	0.6	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.22	716.8	29.83?	757.6?	19.2	— 7.1	72	NE	15.7	7	.....	.....	4k	.....	E	0	0	.....	Dr. Van Bebber.
Wustrow, Naval School	30.15	765.9	30.18	766.5	26.1	— 3.3	100	E	.....	.....	2	.....	9cs	.....	.....	0.063	1.6	.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.45	747.9	29.84	757.9	61.0	16.1	.....	S	.....	.....	4.5	.....	.....	.....	.....	.....	.....	⅛ Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	759.9	29.97	761.2	78.6	23.1	52	NNE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.51	749.5	29.99	761.8	74.2	23.4	21	NNW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.90	759.3	29.94	760.3	74.8	23.8	68	NW	15.0	6.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.95	710.0	29.96	761.0	79.4	26.3	.....	ESE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.23	742.3	30.00	762.1	59.6	15.3	44	Calm	0.8	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.38	695.4	29.93	760.1	74.8	23.8	52	Calm	0	0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Roorkee	29.04	737.7	29.98	761.6	60.8	16.0	45	Calm	1.5	0.7	.....	.....	1	.....	.....	0	0	D. clouds....	
Agra	29.49	749.0	30.06	763.9	65.8	18.8	42	N	.....	.....	.....	.....	8	.....	.....	0	0	Gloomy.....	
Nagpur	28.86	733.1	29.92	759.9	75.6	24.2	42	Calm	2.5	1.1	.....	.....	4	.....	N	0	0	.....	
Lucknow	29.60	751.9	29.99	761.6	68.4	20.2	30	N	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.62	752.4	29.94	760.5	66.8	19.3	64	Calm	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.78	756.5	29.97	761.3	67.2	19.6	57	W	0.4	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.89	708.3	29.96	760.9	65.3	18.5	52	N	4.3	1.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.88	759.0	29.97	761.1	73.2	22.9	57	SSE	1.1	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.95	760.7	29.97	761.3	68.9	20.5	80	SW	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	67.4	19.7	72	Calm	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.89	759.2	29.98	761.6	69.8	21.0	65	Calm	1.8	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Sibsagar	29.68	753.9	30.03	762.8	63.6	17.6	81	Calm	0.4	0.2	.....	.....	0	.....	.....	0	0	Dust-haze...	
Jubbulpore	28.53	724.6	29.91	759.7	74.6	23.7	43	NW	3.7	1.6	.....	.....	7	W	W	0	0	D. clouds....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal: the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,842.4 feet, or 666.3 meters; Nagpur, 1,026 ft., or 312.4m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,387 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.14	740.1	29.56	750.9	31.5	— 0.3	70	SE	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.44	747.8	29.56	750.7	29.3	— 1.5	92	NE	20.0	8.9	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.04	737.5	29.57	751.1	28.9	— 1.7	92	WSW	.....	.....	1	.....	10	.....	.....	0.173	4.4	.....	Prof. Schiaparelli.
Moncalieri	28.62	726.9	29.56	750.9	30.4	— 0.9	65	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.56	700.0	29.53	750.1	28.9	— 1.7	68	W	.....	.....	4	.....	10	.....	.....	0.087	2.2	.....	Prof. D. C. Bruno.
Genoa	29 22	742.2	29.42	747.2	32.0	0.0	91	N	15.0	6.7	.....	.....	10	S	.....	0.063	1.6	.....	Prof. G. M. Garibaldi.
Florence	29.07	738.3	29.33	745.0	37.4	3.0	58	NE	.....	.....	6	.....	10	SE	.....	0	0	.....	Cav. F Meucci
Leghorn	29.16	740.6	29.24	742.8	34.3	1.3	85	NE	28.0	12.5	.....	.....	10	.....	.....	0.134	3.4	.....	Prof. P. Monte.
Pesaro	29.27	743.5	29.32	744.8	40.1	4.5	95	NE	18.6	8.3	.....	.....	10	.....	.....	0.047	1.2	.....	Prof. Luigi Guidi.
Rome	29.04	737.5	29.22	742.1	52.9	11.6	88	ESE	1.8	0.8	.....	.....	8	.....	.....	0.827	21 0	.....	Prof. P S. Ferrari.
Lecce	29.16	740.7	29.42	747.2	54.7	12.6	93	WSW	14.3	6.4	.....	.....	10	S	.....	0.087	2.2	.....	Prof. C. De Giorgi.
Cagliari	29.00	736.6	29.19	741.5	50.7	10.4	74	NW	.....	.....	6	.....	10	NW	.....	0.543	18.8	.....	Prof. A. Pacinotti.
Cosenza	28.52	724.3	29.42	747.2	50.0	10.0	76	SW	1.3	0.6	.....	.....	10	.....	.....	0 724	18.4	.....	Prof. D. Conti.
Palermo	29.13	739.8	29.38	746.3	59.4	15.2	53	WSW	15.4	6.9	.....	.....	6	WSW	.....	0 457	11;6	.....	Prof. G. Cacciatore.
Syracuse	29.34	745.1	29.41	747.0	60.1	15.6	62	SW	11.2	5.0	.....	.....	10	WSW	.....	0.327	8.3	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	28.40?	721.3?	30.13?	765.4?	53.1	11.7	83	SW	8.7	3.9	.....	.....	10	.....	.....	0.056	6.5	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.32	770.1	30.35	770.9	38.1	3.4	78	N	4.8	2.2	.....	.....	9s;ck	.....	NW	0	0	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.22	767.6	30.43	772.9	33.0	0.6	77	Calm	0	0	.....	.....	3c	WNW	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.98	761.5	30.05	763.3	34.6	1.4	52	NNW	11.7	5.2	.....	1ck	0	.....	.....	0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9 30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.5	30.32	770.0	37.0	2.8	52	Calm	.....	.....	0	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.43	620.7	30.11	764.9	50.0	10.0	74	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.2	30.23	767.7	45.9	7.7	69	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	41.5	5.3	64	ENE	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.17	766.4	30.18	766.7	62.8	17 1	75	N	.....	.....	9	6	4	NW	N	.....	.....	Misty	M. M. Cházaro.
San Luis Potosi	24.25	614.5	30.14	765.6	45.0	7.2	24	N	.....	.....	.....	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.22	767.6	30.25	768.3	62.6	17.0	70	N	31.7	14.2	.....	.....	10sk	.....	N	0	0	Covered	Prof. J. Rossell.
Zacatecas	22.57	573.2	.....	.....	48.2	9	39	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.39	594.0	30.19	767.0	42.1	5.6	66	N	2.2	1.0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.36	720.3	30.31	763.7	71.6	22.0	66	NE	.....	.....	1	0	3	.....	SW	0	0	½ clouded	R. Landa, C. E.
San Juan E. Michapam	30.02	762.6	30.16	766.0	67	19.4	.....	NW	.....	.....	3	5n	3n	.....	.....	0	0	Misty	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,553.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft., San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.00	762.1	30.00	762.1	30.6	— 0.8	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.07	763.6	30.12	765.0	26 8	— 2.9	.....	NE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	30.07	763.8	30.07	763.8	30.0	— 1.1	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.00	761.9	30.00	761.9	29 5	— 1.4	100	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.99	761.7	30.04	762.9	29.3	— 1.5	80	NE	.....	.....	5	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.30	769.7	30.36	771.1	19.8	— 6.8	68	SSE	3.6	1.6	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.41	772.2	30.45	773.3	24.8	— 4.0	60	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	
Christiania	30.41	772.3	30.57	776.4	14.5	— 9.7	87	ENE	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.12	765.0	30.16	766.1	37.4	3.0	83	SSW	1.8	8	.....	.....	10	.....	.....	0.067	1.7	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.92	759.9	30.11	764.8	59.4	15.2	82	W	19.9	8 9	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.94	735.1	29.98	761.5	53.1	11.7	71	WNW	27.3	12.2	.....	.....	8	WNW	.....	0.039	1.0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.17	766.4	30.26	768.6	66.0	18.9	73	Calm	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.7	30.08	763.9	56 3	13.5	70	W	11.2	5.0	.....	.....	7	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.06	763.5	30.13	765.3	64.8	18.2	67	WNW	23.7	10.6	.....	.....	4	.....	.....	0.028	0.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—			
Bartholomew Dias					R. A. T. Pinha, Com'd'.
D. Fernando					A. M. de Sande, Com'd't.
India					A. D. Pedroso, Com' d't.
Mindello					J. F. R. R. Bastos, Com'd'.
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids	3	SE	D. clouds		A. Ferreira, 2nd Lt.
Rio Douro					J. T. d'Oliveria, Com'd' t
Quanza, N. 1° 58', E. 4° 30'	2	W	D. clouds		A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda	0	.....	D. clouds		F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....		L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	1	NE	Blue sky		M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.60	751.8	30.05	763.3	20.7	— 6.3	87	NE	11	5	.....	.....	8ks;ck	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.78	756.3	30.23	767.9	15 8	— 9.0	84	NE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds.....	Astronomical Obs.
Dorpat	30.33	770.4	30.60	777.3	5.9	—14.5	87	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.62	777.7	30.63	778.1	9.3	—12.6	100	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Light snow..	Central Physical Obs.
Kieff	29.14	740.1	29.81	757.2	21.4	— 5.9	98	N	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Physical Cabinet.
Nikolaiev	29.89	759.2	29.96	761.0	28.0	— 2.2	75	WSW	13	6	.....	.....	8n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.08	763.9	30.10	764.4	40.6	4.8	81	SW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.94	760.5	30.56	776.2	6.4	—14.2	92	NW	9	4	.....	.....	6s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.70	754.3	29.91	759.8	28.0	— 2.2	75	E	13	6	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.05	763.2	30.07	763.7	20.8	— 6.2	93	SW	13	6	.....	.....	10	.....	.....	.....	.....	Snowing.....	Capt. Sseliwerstow.
Tiflis	28.73	729.7	30.17	766.3	49.6	9.8	43	NW	13	6	.....	.....	5s	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.21	767.2	30.12	765.1	20.1	— 6.6	100	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	Heavy clouds ..	Capt. Wisganow.
Krotkowo*...	30.00	761.9	30.52	775.3	9.7	—12.4	76	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.30	769.7	30.61	777.4	6.8	—14.0	96	N	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.35	745.6	30.43	773.0	0.9	—17.3	74	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.82	757.3	30.05	763.3	48.6	9.2	63	ESE	4	2	.....	.....	9n	.....	.....	.....	.....	.....	
Tashkend	28.60	726.3	30.34	770.7	47°8	8.8	46	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.59	751.6	30.15	765.7	24.6	— 4.1	94	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.50	749.3	29.81	757.1	26.1	— 3.3	88	S	16	7	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
Peking, (China)	30.49	774.4	30.63	778.0	22.6	— 5.2	50	Calm	0	0	.....	.....	1c	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.03	762 7	30.11	764.9	—31.0	—35.0	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters' or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.45	748 0	29.56	750.7	54.5	12.5	49	W	3.5	1.58	.....	.....	.....	.....	.....	0.024	0.61	Clear.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.85	758.1	29.91	759 6	43.0	6.1	98	NW	6.9	3.08	.....	.....	10	.....	.....	0.854	21.7	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.87	682 6	.....	.....	43.2	6.2	82	N	15.0	6.72	.....	.....	7	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.54	699.4	.....	.....	49 8	9.9	62	NW	38.6	17.23	.....	1	1	NW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.58	751.2	29.72	755.0	63.0	17.2	54	SW	6.0	2.67	.....	5	3	ENE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.98	736.1	29.89	759.1	50.7	10.4	95	SW	8.1	3.6	.....	.....	10	.....	.....	0.181	4.6	Covered.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.03	762.8	30.10	764.5	67.2	19.6	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	758.0	29.90	759.4	80.6	27.2	78	NNE	4.0	1.8	.....	2	0	E	.....	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.6	30.08	764.1	58.3	14.6	86	WNW	16.8	7.9	.....	0	6	.....	W	0.001	0.03	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.01	762.3	30.10	764.6	76.6	24.8	90	E	2.6	1.18	.....	5kn	5kn	E	E	0	0	Overcast.....	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.28	769.1	30.32	770.1	— 0.4	—18.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.38	771.6	30.43	772.9	9.3	—12.6	84	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	
Hernosand	30.52	775.1	30.57	776.4	10.0	—12.2	100	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Stockholm	30.34	770.5	30.51	775.0	26,6	— 3.0	91	ENE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.30	769.6	30.36	771.1	28.4	— 2.0	76	E	.....	.....	2	.....	10	.....	.....	0.016	0.4	.....	
Sub-Series.																			
Upsala	30.46	773.6	30.53	775.5	25.3	— 3.7	82	NE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.16	715.3	29.69	754.2	18.5	— 7.5	100	NE	.....	.....	7	.....	10	.....	.....	0.276	7.0	Covered	The Observatory.
Zurich	28.01	711.5	29.79	756.6	16.9	— 8.4	73	NE	.....	.....	2	.....	10	.....	.....	0.008	0.2	Snowing	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —12.4 mm.; Thermometer, —8.8 cent.; Relative Humidity, +20 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.01	762.3	52.9	11.6	59	ESE	8	3.5	.....	.....	8	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.52	749.8	53.2	11.8	.....	S	.....	.....	6	.....	10	.....	.....	0.16	4.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.10	764.5	30.22	767.6	69.8	21.0	53	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	29.69	754.1	29.76	755.9	18.1	— 7.7	77	SW	15.5	6.9	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.3	29.91	759.7	18	— 7.8	.....	NW	1	0.4	.....	.....	10s	.....	NW	0.30	7.6	Cloudy	W. R. Bigg.
*Chatham, N. B	29.73	755.1	29.80	756.9	10	—12.2	94	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.70	754.4	29.75	755.6	19	— 7.2	89	SW	6	2.7	.....	8c	0	Calm	.....	0.075	1.91	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.84	757.9	19.0	— 7.2	65	NW	.....	.....	1	.....	10s	.....	.....	0.20	5.1	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.86	758.4	29.91	759.7	35.1	1.7	100	Calm	.....	.....	.....	0	4s	.....	.....	Inap.	Inap.	Fair	W. H. Bevis.
*Father Point, Quebec	29.63	752.6	29.66	753.4	24	— 4.4	84	S	20	8.9	.....	.....	10s	.....	S	0.01	0.3	Cloudy	J. McWilliams.
Fredericton, N. B	29.81	757.2	29.88	758.9	7.1	—13.8	100	W	1	0.4	.....	9c	7s	.....	.....	0.13	3.3	Overcast	Prof. Harrison.
*Fort Garry Manitoba	29.11	739.4	30.04	763.0	— 8	—22.2	92	S	8	3.6	.....	6k	4n	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.69	728.7	29.88	758.9	13	—10 6	.....	N	.....	.....	1	.....	10n	.....	.....	Inap	Inap	Overcast	James Grant.
*Halifax, N. S	29.74	755.4	29.88	758.9	29	— 1.7	94	S	2	0.9	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.49	749.0	29.89	759.2	20.5	— 6.4	81	NE	.....	.....	2	10cs	0	Calm	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	29.72	754.9	29.75	755.6	29	— 1.7	88	NW	.....	.....	6	0	0	.....	.....	0.27	6.9	Fine	E. Weedon.
*Kingston, Ontario	29.53	750.0	29.89	759.2	20	— 6.7	79	NW	4	1.8	.....	.....	10s	.....	Calm	0.33	8.4	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.83	757.7	29.87	758.7	23.2	— 4.9	92	SW	5	2.2	.....	7k	0	SW	.....	0.15	3.8	Cloudy	C. H. Rigby.
*Montreal, Quebec	29.62	752.3	29.84	757.9	23	— 5.0	73	W	10	4.5	.....	.....	10ks	.....	.....	0.03	0.8	Cloudy	C. H. McLeod, C. E.
Moose Factory, Ontario	29.78	756.4	29.82	757.4	— 8.1	—22.3	92	W	.....	.....	2	2cs	0	.....	.....	0.03	0.8	Fair	J. R. Nason.
*Parry Sound, Ontario	29.16	740.7	29.95	760.7	— 5	—20.6	74	NE	5	2.2	.....	2ck	5ks	NW	NW	0.30	7.6	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.12	739.6	29.93	760.2	13.6	—10.2	73	Calm	.....	.....	.....	0	8ks	.....	.....	.....	.....	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.11	739.4	29.86	758.4	14	—10.0	93	N	7	3.1	.....	10k	0	SW	.....	0.02	0.5	Cloudy	H. Morgan.
Port Hastings, N. S	29.84	757.9	29.90	759.4	26.9	— 2.8	.....	NW	3	1.3	.....	.....	.....	.....	.....	0.20	5.1	Fine	Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.86	758.4	18	— 7.8	75	N	.....	.....	.....	.....	10n	.....	W	0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec	29.46	748.3	29.80	756.9	22	— 5.6	72	NW	.....	.....	1	.....	10n	.....	W	0.15	3.8	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.43	747.5	29.94	760.5	— 3	—19.4	97	W	3	1.3	.....	0	0	.....	.....	Inap	Inap.	Clear	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.88	758.9	26	— 3.3	89	W	.....	.....	1	.....	10n	.....	.....	0.02	0.5	Cloudy	Dr. Gove.
St. John, N. B	29.70	754.4	29.87	758.7	26	— 3.3	75	SW	2	0.9	.....	.....	10s	.....	.....	0.22	5.6	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.14	740.1	29.91	759.7	16	— 8.9	91	E	1	0.4	.....	.....	10ks	.....	NE	0.14	3.6	Cloudy	K. Stewart.
Stayner, Ontario	29.07	738.4	29.91	759.7	15	— 9.4	84	Calm	0	0	.....	.....	10n	.....	Calm	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.48	723.4	29.86	758.4	12.8	—10.7	92	Calm	0	0	.....	.....	10s	.....	.....	0.10	2.5	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.83	757.7	29.88	758.9	24	— 4.4	86	SW	8	3.6	.....	0	2ks	.....	W	0.12	3.0	Clear	T. C. Hill.
*Toronto, Ontario	29.48	748.8	29.89	759.2	18	— 7.8	80	N	12	5.4	.....	8ck	2s	SW	SW	0.02	0.5	Cloudy	Magnetic Observatory.
Windsor, N. S	29.70	754.4	29.80	756.9	28.0	— 2.2	88	W	7	3.1	.....	.....	10n	.....	.....	0.05	1.3	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	28.0	— 2.2	100	S	.....	.....	.....	.....	10	.....	.....	0.10	2.5	Overcast	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From —	CLOUDS. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.62	752.3	29.86	758.4	28	— 2.2	88	NW	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Alpena, Michigan	29.25	742.9	29.98	761.5	— 8	—22.2	58	Calm	0	0	.....	0	2s	.....	Calm	0.25	6.3	Clear	
Atlanta, Georgia	28.45	722.6	29.56	750.8	57	13.9	93	SW	20	8.9	.....	.....	10n	.....	SW	0.47	11.9	Heavy rain	
Atlantic City, New Jersey	29.74	755.4	29.76	755.9	39	3.9	100	S	2	0.9	.....	.....	10n	.....	Calm	0.21	5.3	Light rain	
Augusta, Georgia	29.54	750.3	29.71	754.6	61	16.1	71	S	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Baltimore, Maryland	29.71	754.6	29.76	755.9	38	3.5	96	S	6	2.7	.....	.....	10n;fg	.....	Calm	1.30	33.0	Light rain	
Barnegat, New Jersey	29.76	755.9	29.78	756.4	35	1.7	100	E	8	3.6	.....	.....	10n	.....	Calm	0.85	21.6	Light rain	
Bismarck, Dakota	27.98	710.7	29.84	757.9	— 7	—21.7	100	E	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Boerne, Texas	28.82	732.0	30.25	768 3	25	— 3.9	50	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	26.96	684.8	29.92	760.0	31	— 0.6	89	SE	8	3.6	.....	.....	10n	.....	Calm	0.18	4.6	Light snow	
Boston, Massachusetts	29.70	754.4	29.86	758.4	33	0.6	89	Calm	0	0	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Brackettville, Texas	29.15	740.4	30.27	768.8	20	— 6.7	85	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Breckenridge, Minnesota	28.96	735.6	30.11	764 8	—16	—26.7	100	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.41	772.4	30.49	774.4	30	— 1.1	78	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.09	738.9	29.83	757.7	21	— 6.1	71	W	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	32	0.0	50	E	.....	.....	1	2c	0	N	.....	0	0	Clear	
Burlington, Vermont	29.55	750.6	29.85	758.2	29.5	— 1.4	62	S	2	0.9	.....	.....	10s	.....	SW	Inap.	Inap	Cloudy	
Cairo, Illinois	29.76	755.9	30.19	766.8	12	—11.1	80	NW	6	2.7	.....	.....	10s	.....	NW	0.10	2.5	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	25	— 3.9	75	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	19	— 7.2	69	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.49	698.2	30.06	763.5	20	— 6.7	39	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.88	758 9	29.89	759.2	53	11.7	100	SW	19	8.5	.....	.....	10n	.....	SW	0.30	7.6	Light rain	
Cape Henry, Virginia	29.72	754.9	29.74	755.4	57	13 9	75	SW	14	6.3	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Cape Lookout, N. Carolina	29.88	758.9	29.89	759.2	54	12.2	100	SW	28	12.5	.....	.....	10s	.....	SW	0.84	21.3	Cloudy	
Cape May, New Jersey	29.73	755.1	29.76	755.9	40	4.4	100	S	22	9.8	.....	.....	10n	.....	Calm	1.13	28.7	Light rain	
Castroville, Texas	29.54	750.3	30.32	770.1	22	— 5.6	72	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.84	757.9	29.90	759.4	57	13.9	81	SW	21	9.4	.....	5c	0	Calm	.....	0	0	Fair	
Cheyenne, Wyoming	23.77	603.8	29.71	754.6	22	— 5.6	72	W	4	1.8	.....	0	5ks	.....	W	0	0	Fair	
Chicago, Illinois	29.24	742.7	30.00	762.0	3	—16.1	73	NW	5	2.2	.....	0	5s	.....	NW	0	0	Fair	
Cincinnati, Ohio	29.19	741.4	29.88	758.9	16	— 8.9	83	N	12	5.4	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Cleveland, Ohio	29.04	737.6	29.80	756.9	20	— 6.7	85	E	10	4.5	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Coleman City, Texas	28.42	721.9	30.29	769.4	8	—13.3	78	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	28 88	733.5	29.77	756.1	15	— 9.4	83	N	7	3.1	.....	.....	10n	.....	Calm	0.03	0.8	Heavy snow	
Corpus Christi, Texas	28.29	718.6	30.18	766.6	6	—14.4	74	SW	2	0.9	.....	.....	0	.....	.....	0.11	2.8	Clear	
Corsicana, Texas	29.88	758.9	30.41	772.4	18	— 7.8	84	NW	1	0.4	.....	0	0	.....	.....	0.10	2.5	Clear	
Davenport, Iowa	29.44	747.8	30.16	766.1	— 6	—21.1	81	NW	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear	
Deadwood, Dakota	25.10	637.5	.....	.....	9	—12.8	78	SW	1	0.4	.....	5k	0	W	.....	0	0	Fair	
Decatur, Texas	29.05	737.9	30.36	771.1	9	—12.8	78	N	12	5.4	.....	0	0	.....	.....	1.13	28.7	Clear	
Denison, Texas	29.45	748.0	30.33	770.4	14	—10.0	82	NW	6	2.7	.....	0	0	.....	.....	0.36	9.1	Clear	
Denver, Colorado	24.55	623.6	29.77	756.1	3	—16.1	73	S	8	3.6	.....	8c	0	W	.....	0	0	Fair	
Des Moines, Iowa	29.21	741.7	30.22	767.6	— 8	—22.2	58	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Detroit, Michigan	29.16	740.7	29.88	758.9	12	—11.1	80	N	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.41	696.2	29.97	761 2	— 1	—18.3	68	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.36	745.7	30.16	766.1	— 8	—22.2	58	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.33	745 0	30.10	764.5	— 8	—22.2	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.56	750.8	30.37	771.4	23	— 5.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.80	756.9	29.87	758.7	29	— 1.7	78	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	42	5.6	48	NW	4	1.8	.....	0	0	.....	.....	0.13	3.3	Clear	
Erie, Pennsylvania	29.05	737.9	29.79	756.7	25	— 3.9	75	NE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.27	743.4	30.00	762.0	1	—17.2	71	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.62	726.9	30.22	767.6	31	— 0.6	79	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.60	650.2	29.66	753.4	1	—17.2	42	E	1	0.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Fort Davis, Texas	25.25	641.3	30.21	767.3	21	— 6.1	85	SW	7	3.1	.....	0	0	.....	.....	0.12	3.0	Clear	
Fort Gibson, Indian Ter	29.68	753.9	30.29	769.4	1	—17.2	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.98	736.1	30.41	772.4	9	—12.8	78	Calm	0	0	.....	0	0	.....	.....	1.30	33.0	Clear	
Fort McKavett, Texas	27.97	710.4	30.08	764.0	16	— 8.9	66	SW	2	0.9	.....	0	0	.....	.....	0.75	19.1	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.97	735.8	30.19	766.8	15	— 9.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	27.97	710.4	.....	.....	— 5	—20.6	100	W	.....	.....	1	10cs	0	Calm	.....	0	0	Cloudy	
Fredericksburg, Texas	28.50	723 9	30.16	766.1	31	— 0.6	48	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.29	769.4	30.33	770.4	28	— 2.2	77	NW	32	14.3	.....	0	0	.....	.....	0.29	7.4	Clear	
Graham, Texas	29.11	739.4	30.33	770.4	— 4	—20.0	100	Calm	0	0	.....	0	0	.....	.....	0.22	5.6	Clear	
Grand Haven, Michigan	29.28	743 7	29.97	761.2	15	— 9.4	82	E	1	0.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Indianapolis, Indiana	29.08	738 6	29.93	760.2	10	—12.2	79	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.36	771 1	30.39	771.9	27	— 2.8	76	NW	16	7.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Jacksboro, Texas	29.06	738.1	30.33	770.4	10	—12 2	79	W	4	1.8	.....	0	0	.....	.....	0.14	3.6	Clear	
Jacksonville, Florida	29.93	760.2	29.96	761.0	61	16.1	77	S	19	8.5	.....	10k	0	W	.....	0	0	Cloudy	
Keokuk, Iowa	29.46	748 3	30.16	766.1	— 4	—20.0	83	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.08	764.0	30.12	765.0	70	21.1	85	S	9	4.0	.....	5k	Fog	S	Calm	0	0	Fair	
Kittyhawk North Carolina	29.80	756.9	29.82	757.4	51	10.6	93	SW	22	9.8	.....	10cs	0	W	.....	0.44	11.2	Cloudy	
Knoxville, Tennessee	28.50	723.9	29.49	749.0	37	2.8	100	E	8	3.6	.....	.....	10n	.....	Calm	3.90	99.1	Light rain	
La Crosse, Wisconsin	29.30	744.2	30.13	765.3	— 7	—21.7	80	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.22	666.0	30.37	771.4	5	—15.0	82	NW	1	0.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Laredo, Texas	29.94	760.5	30.32	770.1	25	— 3.9	87	NW	2	0.9	.....	0	0	.....	.....	0.04	1.0	Clear	
Leavenworth, Kansas	29.28	743 7	30.25	768.3	— 6	—21.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.85	758.2	30.20	767.1	40.1	4.5	56	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.29	744 0	29.90	759.4	12	—11.1	61	NW	12	5.4	.....	.....	10n	.....	NW	0.04	1.0	Light snow	
Lynchburg, Virginia	28.99	736.3	29.68	753.9	38	3.3	100	Calm	0	0	.....	.....	10n	.....	Calm	1.49	37.8	Light rain	
Madison, Wisconsin	28.98	736.1	30.07	763.8	0	—17.8	70	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.19	741.4	29.95	760.7	9	—12.8	78	SW	9	4.0	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Mason, Texas	28.59	726.2	30.54	775.7	16	— 8.9	82	NW	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Memphis, Tennessee	29.83	757.7	30.18	766.6	15	— 9.4	83	N	14	6.3	.....	0	0	.....	.....	0.41	10.4	Clear	
Milwaukee, Wisconsin	29.23	742.4	30.04	763.0	1	—17.2	72	NW	8	3.6	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.05	763.3	30.09	764.3	38	3.3	75	NW	16	7.2	.....	.....	10s	.....	NW	0.15	3.8	Cloudy	
Montgomery, Alabama	29.70	754.4	29.95	760.7	38	3.3	80	W	24	10.7	.....	.....	10ks	.....	W	0.26	6.6	Threatening	
Morgantown, West Virginia	28.57	725.7	29.64	752.8	32	0.0	89	SW	5	2.2	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy	
Mt. Washington, N. H.	23.32	592.6	29 68	753 9	7	—13.9	88	NW	72	32.2	.....	10s	2ks	NW	NW	0.23	5.8	Cloudy	
Nashville, Tennessee	29.41	747 0	29.99	761.7	14	—10.0	82	W	12	5.4	.....	.....	10n	.....	.....	1.43	36.3	Light snow	
New Haven, Connecticut	29.74	755.4	29.86	758.4	37	2.8	86	Calm	0	0	.....	.....	10n	.....	Calm	0.38	9.7	Heavy snow	
New London, Connecticut	29.82	757.4	29.87	758.7	35	1.7	100	Calm	0	0	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
New Orleans, Louisiana	30.07	763.8	30.13	765.3	38	3.3	63	NW	20	8.9	.....	.....	10ks	.....	NW	0.36	9.1	Cloudy	
Newport, Rhode Island	29.80	756.9	29.86	758.4	36	2.2	90	SW	2	0.9	.....	.....	10n	.....	Calm	0.36	9.1	Light rain	
New York, New York	29.64	752.8	29.82	757.4	36	2.2	100	NE	10	4.5	.....	.....	10n;fg	.....	Calm	0.66	16.8	Light snow	
Norfolk, Virginia	29.69	754.1	29.76	755.9	52	11.1	60	SW	8	3.6	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
North Platte, Nebraska	26.98	685.3	29.81	757.2	0	—17.8	70	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	29.91	759.7	29 95	760.7	34.2	1.2	100	W	1	0.4	.....	.....	Fog	.....	Calm	0.53	13.5	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Correcte for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er. 0—10	Low'r. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Omaha, Nebraska	28.93	734.8	30.16	766.1	— 2	—18.9	84	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.55	750.6	29.88	758.9	33	0.6	79	N	6	2.7	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Pembina, Dakota	29.08	738.6	30.05	763.3	—24	—31.1	100	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Philadelphia, Pa	29.74	755.4	29.80	756.9	37	2.8	100	NE	9	4.0	.....	.....	10n;fg	.....	.....	0.81	20.6	Light rain	
Phœnix, Arizona	29.03	737.3	30.95	786.1	36	2.2	45	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.32	439.9	29.53	750.0	— 4	—20.0	65	W	40	17.9	.....	0	1s	.....	Calm	0	0	Clear	
Pioche, Nevada	23.89	606.8	29.66	753.4	20	— 6.7	41	S	12	5.4	.....	5cs	5s	W	W	0	0	Cloudy	
Pittsburg, Pennsylvania	28.89	733.8	29.73	755.1	25	— 3.9	87	N	9	4	.....	.....	10s	.....	Calm	0.15	3.8	Threatening	
Port Huron, Michigan	29.16	740.7	29.87	758.7	13	—10.6	81	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.80	756.9	29.86	758.4	34	1.1	79	Calm	0	0	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	
Portland, Oregon	29.99	761.7	30.10	764.5	38.5	3.6	91	S	3	1.3	.....	.....	10ks	.....	NW	0.50	12.7	Cloudy	
Prescott, Arizona	24.70	627.4	30.06	763.5	12	—11.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.06	738.1	29.94	760.5	20	— 6.7	84	N	1	0.4	.....	.....	10n	.....	N	0.02	0.5	Light snow	
Punta Rassa, Florida	30.10	764.5	30.11	764.8	62	16.7	85	SE	10	4.5	.....	1k	5ks	SW	S	0	0	Fair	
Red Bluff, California	29.76	755.9	30.13	765.3	37	2.8	81	N	6	2.7	.....	2c	Sm'e	NW	Calm	0	0	Fair	
Rio Grande City, Texas	30.28	769.1	30.52	775.2	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.24	742.7	29.80	759.2	25	— 3.9	87	W	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Roseburg, Oregon	29.58	751.3	30.16	766.1	39.0	3.9	91	SW	2	0.9	.....	.....	10s	.....	NW	0.85	21.6	Cloudy	
Sacramento, California	29.99	761.7	30.08	764.0	42.9	6.1	87	S	9	4	.....	.....	10s	.....	S	0.20	5.1	Cloudy	
St. Louis, Missouri	29.54	750.3	30.19	766.8	3	—16.1	73	NW	11	4.9	.....	0	2s	.....	Calm	0	0	Fair	
St. Marks, Florida	29.86	758.4	29.87	758.7	58	14.4	94	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Threatening	
St. Paul, Minnesota	29.15	740.4	30.19	766.3	— 7	—21.7	80	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.48	647.2	29.81	757.2	36	2.2	75	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.64	752.8	30.28	769.1	25	— 3.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.14	765.5	30.21	767.3	39.6	4.2	60	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.14	740.1	29.85	758.2	16	— 8.9	83	N	23	10.3	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Sandy Hook, New Jersey	29.77	756.1	29.80	756.9	36	2.2	100	SE	6	2.7	.....	.....	Fog	.....	SE	0.84	21.3	Light rain	
San Francisco, California	30.09	764.3	30.16	766.1	51	10.6	72	NW	18	8.0	.....	5k	0	NW	.....	0.22	5.6	Fair	
Santa Fé, New Mexico	23.18	588.8	29.72	754.9	2	—16.7	72	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Savannah, Georgia	29.77	756.1	29.86	758.4	58	14.4	82	S	14	6.3	.....	2cs	Haze	SW	Calm	0	0	Fair	
Shreveport, Louisiana	30.07	763.8	30.31	769.9	17	— 8.3	83	NW	4	1.8	.....	0	0	.....	.....	0.52	13.2	Clear	
Silver City, New Mexico	24.29	617.0	30.84	783.3	20	— 6.7	70	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.86	758.4	29.90	759.4	53	11.7	93	SW	20	8.9	.....	1c	2s	SW	SW	0.15	3.8	Fair	
Springfield, Massachusetts	29.71	754.6	29.85	758.2	36	2.2	80	Calm	0	0	.....	.....	10n	.....	.....	0.10	2.5	Light snow	
Stockton, Texas	27.10	688.3	30.10	764.5	14	—10.0	82	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
Thatcher's Island, Mass	29.92	760.0	29.98	761.5	34	1.1	90	SW	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Toledo, Ohio	29.15	740.4	29.87	758.7	15	— 9.4	82	N	4	1.8	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	31	— 0.6	41	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.84	757.9	29.87	758.7	57	13.9	81	S	21	9.4	.....	2c	2ks	S	SE	0	0	Fair	
Umatilla, Oregon	29.61	752.1	30.12	765.0	28.0	— 2.2	88	SE	4	1.8	.....	.....	10s	.....	Clm	0.60	15.2	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	32	0.0	79	SE	.....	.....	1	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.33	745.0	30.22	767.6	25	— 3.9	62	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.95	760.7	30.22	767.6	29	— 1.7	89	N	8	3.6	.....	.....	10s	.....	N	1.56	39.6	Cloudy	
Virginia City, Montana	23.99	609.3	29.47	748.5	14	—10.0	64	SE	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Visalia, California	29.80	756.9	30.18	766.6	35.7	2.1	67	SE	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Washington, D. C.	29.62	752.3	29.74	755.4	38	3.3	100	E	3	1.3	.....	.....	10n	.....	.....	1.56	39.6	Heavy rain	
Wickenburg, Arizona	.....	.....	.....	.....	27	— 2.8	76	NE	.....	.....	1	5cs	0	W	.....	0	0	Fair	
Wilmington, N. Carolina	29.77	756.1	29.84	757.9	59	15.0	76	SW	20	8.9	.....	2c	2s	W	SW	0.18	4.6	Fair	
Winnemucca, Nevada	25.47	646.9	29.83	757.7	29	— 1.7	100	SW	9	4.0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Wood's Holl, Mass	29.82	757.4	29.86	758.4	36	2.2	90	NE	3	1.3	.....	.....	10n	.....	NE	0.38	9.7	Light rain	
Yankton, Dakota	28.75	730.2	30.24	768.1	—16	—26.7	69	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.01	762.2	30.19	766.8	34	1.1	45	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayettville, Ark	28.58	725.9	30.16	766.1	3	—16.1	160	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.05	763.3	30.07	763.8	72	22.2	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	76	24.4	90	Calm	0	0	.....	2c	2s	E	Calm	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.99	761.7	30.07	763.8	79	26.1	.....	NE	8	3.6	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	77	25.0	91	NE	.....	.....	2	5k?	7ks?	E	.....	0.010	0.25	½ clouded	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.04	763.0	30.09	764.3	—30.0	—34.4	.....	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 536.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,208 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,160 (?) ft., or 335.8 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.08	764.0	49	9.4	47	8.3	85	W	25	11.2	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Navy Yard, Pensacola, Fla.	30.08	764.0	42	5.6	42	5.6	83	NW	20	8.9	.....	.....	8	.....	NW	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.70	754.4	56	13.3	32	0.0	90	S	10	4.5	.....	.....	2?	.....	.....	.....	.....	.....	.....	Overcast?...	
Naval Hospital, Yokohama, Japan *	30.01‡	762.2‡	.....	.....	36.5	2.5	43	N	.....	.....	4	.....	1ck	....	W	Blank	Blank	.....	.....	Fair	
Alaska, Panama	30.02	762.5	79	26.1	77	25.0	86	NW	.....	.....	2	.....	2	.....	SE	0	0	.....	.....	Hazy.....	
Alliance. Smyrna, Turkey	30.02‡	762.5‡	.....	.....	57	13.9	69	SSE	.....	.....	2–3	.....	9	.....	S	.....	.....	.....	.....	Threatening	
Ashuelot. N 13° 43′, E. 100° 29′	30.01	762.2	82	27.8	79	26.1	82	NNW	.....	.....	1	.....	5	.....	N	.....	.....	.....	.....	Hazy...	
Canonicus, New Orleans, La.	30.40	772.1	35	1.7	37	2.8	90	W	.....	.....	6	.....	10	.....	W	.....	.....	.....	.....	Raining.....	
Colorado. New York, N. Y.	29.06	738.1	37	2.8	34	1.1	100	W	7	3.1	.....	.....	10	.....	.....	0.07	1.8	.....	.....	Rainy.....	
Constitution, Havre, France	29.90‡	759.4‡	.....	.....	30	— 1.1	??	NE	.....	.....	3	.....	9	.....	Calm	.....	.....	.....	.....	Cloudy	
Despatch. Constantinople, Turkey	29.03‡	737.3‡	.....	.....	55	12.8	50	SE	.....	.....	2	.....	5*	.....	S	.....	.....	.....	.....	Fair...	
Franklin, Norfolk, Va.	29.99	759.4	73	22.8	55	12.8	80	S	3.6	1.6	.....	.....	10	.....	S	0.2	5.	.....	.....	Cloudy.....	
Gettysburg, Villafranca, France	29.64‡	752.8‡	.....	.....	42	5.6	100	NE	.....	.....	1–2	.....	10	.....	.....	.....	.....	Long	.....	Raining.....	
Hartford, Montevideo, Uruguay	29.80	756.9	75	23.9	75	23.9	72	W	12.0	5.4	.....	.....	2	.....	.....	0	0	Smooth	.....	Clear...	
Lackawana, N. 7° 03′, W. 81° 09′	29.71‡	754.6‡	.....	.....	82	27.8	87	N	.....	.....	1	.....	2	.....	.....	0	0	Smooth.	SW	Clear.....	
Michigan, Erie, Pa.	29.90†	759.4†	.....	.....	24	— 4.4	74	NW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Yokohama, Japan *	30.05‡	763.3‡	.....	.....	37	2.8	48	NNW	.....	.....	4–5	.....	2	.....	NNW	.....	.....	.....	.....	Squally	
New Hampshire, Port Royal, S. C.	29.88†	758.9†	.....	.....	55	12.8	87	S	23	10.7	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.60	777.2	25	— 3.9	23	— 5.0	100	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.	.....	.....	.....	.....	38	3.3	81	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, N. 7° 48′, W. 79° 30′	29.87‡	758.7‡	.....	.....	80	26.7	100	N	1.0	0.7	.....	.....	2	.....	.....	0.2	5.	Smooth	N	Fair	
Powhatan, Norfolk, Va.	29.86	757.4	53	11.7	54	12.2	80	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Quinnebaug, Norfolk, Va.	30.28‡	769.1‡	.....	.....	53	11 7	.....	SSW	.....	.....	2–3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Richmond, Brooklyn, N. Y.	29.84‡	757.9‡	.....	.....	35	1.7	100	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Raining.....	
Rio Bravo, Brownsville, Texas	30.33	770.4	44	6.7	31	— 0.6	92	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md.	29.75‡	755.6‡	.....	.....	44	6.7	60	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining.....	
St. Louis, League Island, Pa.	29.81	757.2	60	15.6	36	2.2	90	SE	5	2.2	....	.....	10	.....	.....	0.35	8.9	.....	.....	Raining	
Supply, N. 46° 01′, W. 9° 54′	29.76‡	755.9‡	.....	.....	53	11.7	86	SSE	.....	.....	6	.....	8	.....	S	.....	.....	Mod'ate	S	Cloudy.....	
Trenton Villafranca, France *	29.30‡	744.2‡	.....	.....	45	7.2	100	NW	.....	.....	1	.....	10	.....	N; W	0.50	12.7	.....	.....	Cloudy.....	
Tuscarora. N. 10° 04′, W. 86° 18′	29.92‡	760.0‡	.....	.....	79	26.1	91	ENE	.....	.....	3	.....	2	.....	SW	0	0	Smooth	.....	Clear.....	
Vandalia, N. 35° 49′, W. 74° 09′	29.94‡	760.5‡	.....	.....	67	19.4	79	SSW	.....	.....	8	.....	10	.....	SSW	.....	.....	Heavy	SSW	Cloudy.....	
Wabash, Boston, Mass.	29.91‡	759.7‡	.....	.....	52	11.1	79	SW	1	0.4	....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

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

PACIFIC MAIL S. S. CO. MARINE SERIES.

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

S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada, N. 22° 55', W. 109° 30'		30.17†	766.3†	60	15.6	77†	N			7		0			0	Rough	N	Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.89	759.2				NW			1–2		0						Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			
S. S. Gaelic, Yokohama, Japan																			J. A. Thompson, 2d Off't
S. S. Oceanic, Capt. J. Metcalf		30.02†	762.5†	52	11.1	100	N			5		k		Var.				D. clouds	Capt. W. H. Kidley.
																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch Off Jupiter Inlet, Cuba		30.08	764.0	73.5	23.1	81	S			4		8?		S	0	3	S	Clear	L. Jahns.
S. S. Leipzig, N. 39° 46' W. 64° 49'		30.11	764.8	63.5	17.5		WSW			2		10		W	Blank	4	W	Misty	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		29.72*	754.9*	39	3.9	91	NE			6		9		NE	Blank			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool		29.64†	752.8†	36	2.2	??	ESE			3		8		ESE	0			Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 41° 38', W. 66° 6'		29.79*	756.7*	44	6.7		S			4		10		SSW		Short	SW	Raining	Capt. W. Richardson.
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

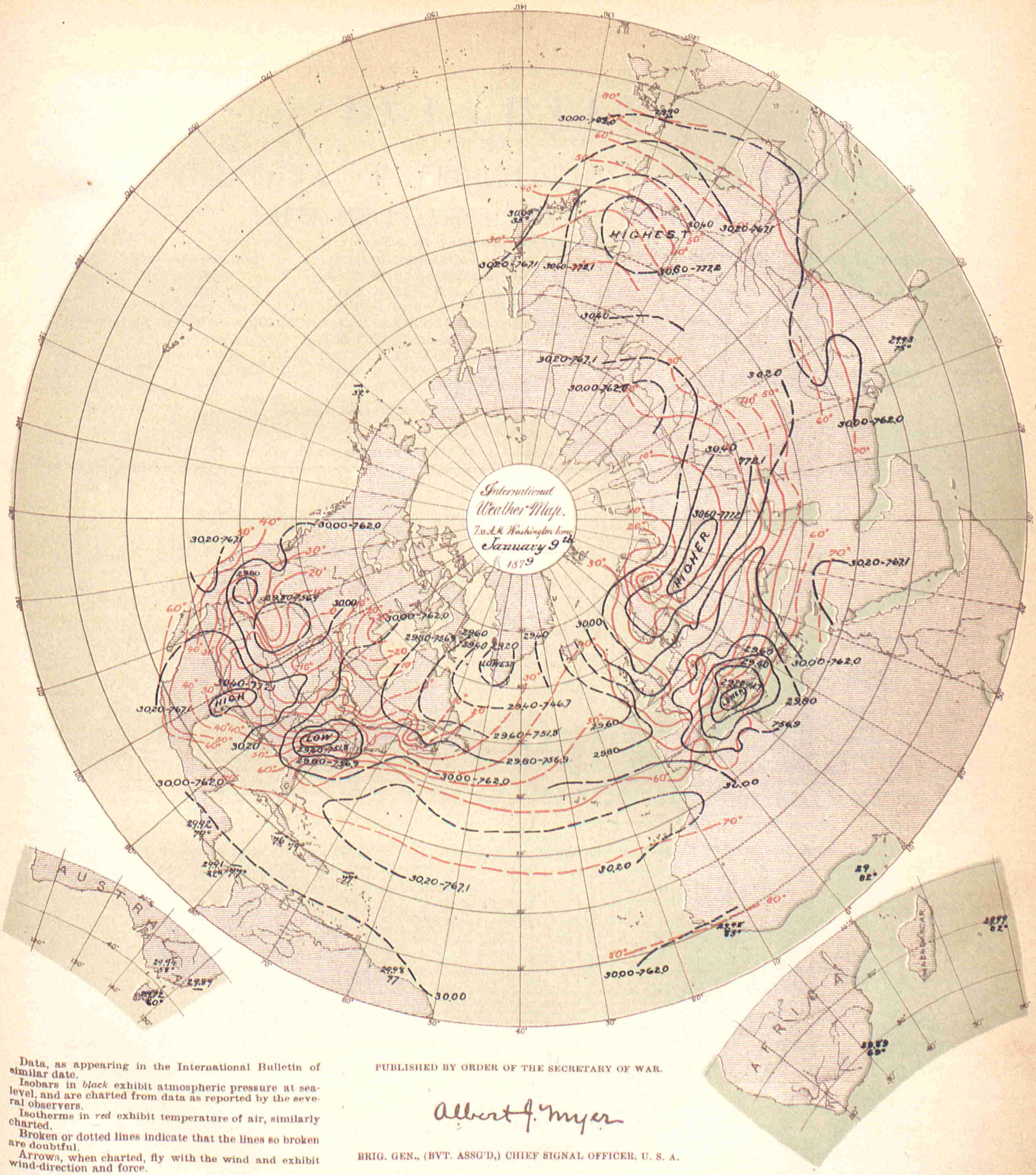
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 10, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.26	768.6	62.8	17.1	81	NE	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair.	
Nemours	.....	.....	30.05	763.2	70.0	21.1	53	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Kesxuche.
Algiers	.....	.....	29.84	757.9	63.0	17.2	72	W	.....	.....	6	.....	5	.....	.....	0.28	7.2	Cloudy.....	Tourillere.
La Calle	.....	.....	29.87	758.7	62.6	17.0	53	NW	.....	.....	6	.....	10	.....	.....	0.079	2.0	Covered	Foufrede.
Tunis	.....	.....	29.84	758.0	61.0	16.1	69	W	.....	.....	4	.....	10	.....	.....	0.016	0.4	Covered.....	Jacques.
Sfax	.....	.....	29.96	761.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.99	761.7	59.4	15.2	70	W	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	29.89	759.3	56.1	13.4	65	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	29.99	761.7	42.4	5.8	76	SW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Brugniaux.
Laghouat	.....	.....	29.95	760.8	65.1	18.4	40	E	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	29.97	761.1	64.0	17.8	57	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.08	738.7	29.66	753.3	27.7	— 2.4	77	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.84	732.6	29.65	753.1	23.0	— 5.0	95	ENE	.....	.....	3	.....	10	.....	.....	0.024	0.6	.....	Dr. Wierzbiski
Eperies	28.72	729.4	29.64	752.9	24.4	— 4.2	91	Calm	.....	.....	0	.....	10	.....	.....	0.120	3.05	.....	Julius Mikoink.
Gratz	28.34	719.9	29.66	753.4	23.?	— 4.9	85	SSW	.....	.....	2	.....	6	.....	.....	0.268	6.8	.....	Andreas Rospini.
Hermannstadt	28.16	715.2	29.61	752.0	40.1	4.5	82	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.21	716.5	29.63	752.5	21.6	— 5.8	87	Calm	.....	.....	0	.....	0	.....	.....	0.039	1.0	.....	Prof. C. Wagner.
Lemberg	28.73	729.7	29.78	756.3	22.3	— 5.4	84	SE	.....	.....	2	.....	10	.....	.....	0.189	4.8	.....	Dr. T. Stanecki.
Pola	28.50	749.4	29.62	752.3	35.2	1.8	71	ESE	.....	.....	1	.....	10	.....	.....	0.217	5.5	.....	I. R. Hydrographic Office.
Szathmar	29.15	740.3	29.62	752.4	36.	2.6	96	E	.....	.....	2	.....	10	.....	.....	0.185	4.7	.....	Julius Csics, S. J.
Szegedin	29.30	744.1	29.59	751.5	32.9	0.1	96	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.53	750.1	29.63	752.7	36.5	2.5	61	E	.....	.....	1	.....	10	.....	.....	0	0	Cloudy.....	P. Busin.
Vienna	28.90	734.1	29.66	753.3	23.4	— 4.8	81	W	.....	.....	1	.....	10	.....	.....	0.295	7.5	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 415 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.77	756.1	29.87	758.7	34.8	1.6	.....	SE	32	14.3	.....	.....	6	.....	.....	0.120	3.05	Squally.....	W. Boswell.
Ardrossan	29.73	755.1	29.74	755.4	33	0.6	.....	E	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	29.61	752.1	31.0	— 0.6	.....	ESE	18	8.0	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.65	753.1	29.0	— 1.7	.....	E	17	7.6	.....	.....	0	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton	.....	.....	29.65	753.1	28.5	— 1.9	.....	ESE	24.0	10.7	.....	.....	8	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.28	743.7	29.67	753.6	30.1	— 1.1	.....	Calm	.....	.....	0	.....	3	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	30.02	762.5	30.04	763.0	77	25.0	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.66	753.4	31.0	— 0.6	.....	ENE	.....	.....	1	.....	1	.....	.....	Blank	Blank	D. clouds.....	H. Todd.
Cardington	.....	.....	29.67	753.6	27.0	— 2.8	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	John McLaren.
Chatham, School M. E.	29.51	749.5	29.65	753.1	29.2	— 1.6	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R.E.
Dartmoor	27.92	708.9	29.44	747.8	26.0	— 3.3	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.....	Alexander Watt.
Donaghadee	29.63	752.6	29.67	753.6	32	0.0	.....	SE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.. ..	J. Mac Gowan.
Dover	29.59	751.6	29.61	752.1	27	— 2.8	.....	ESE	.....	.....	4	.....	9	.....	.....	.....	.....	Covered....	J. Costello.
Falmouth, Observatory	29.17	740.9	29.40	746.7	33.6	0.9	.....	ESE	.....	.....	7	.....	10	.....	.....	.....	.....	Snowing.....	The Staff.
Fort Napier, (Natal)	27.45	697.2	25.76	755.9	74.0	23.3	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	84	28.9	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.43	747.5	33	0.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.98	761.5	30.04	763.0	58.2	14.6	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	Gloomy	Capt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.55	750.6	29.75	755.6	31.8	— 0.1	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.66	753.4	27	— 2.8	.....	E	.....	.....	6	.....	8	.....	.....	.....	.....	Snowing.....	G. T. Watson.
Greenwich, Royal Obs'y	29.46	748.3	29.64	752.8	27.4	— 2.6	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G. B. Airy
Guernsey	29.25	742.9	29.48	748.8	27	— 2.8	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	29.33	745.0	29.45	748.0	34	1.1	.....	E	.....	.....	6	.....	10n	.....	.....	.....	.....	Snow & sleet	M. P. Moyle.
Holyhead	29.57	751.1	29.62	752.3	30	— 1.1	.....	E	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fisher.
Kew, Observatory	29.59	751.6	29.63	752.6	28.0	— 2.2	.....	E	14	6.3	.....	.....	2	.....	.....	.....	.....	Misty.....	The Staff.
Kingstown	29.55	750.6	29.58	751.3	32	0.0	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	29.38	746.2	29.64	752.8	28.6	— 1.9	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.70	754.4	29.78	756.4	60	15.6	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	29.74	755.4	29.84	757.9	34	1.1	.....	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	¼ covered ...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.20	767.1	71.0	21.7	.....	SE ?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.48	748.8	29.67	753.6	31.5	— 0.3	.....	NE	.....	.....	1	.....	8k	.....	NE	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Orcott, St. Mary's College	29.10	739.1	29.65	753.1	28.6	— 1.9	.....	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.64	752.8	26	— 3.3	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.38	746.2	29.46	748.3	33.3	0.7	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	John Merrifield.
Roche's Point	29.32	744.7	29.37	746.0	35	1.7	.....	SE	.....	.....	8	.....	10	.....	.....	.....	.....	Snowing.....	W. Kennedy.
Saint Ann's Head	29.30	744.2	29.47	748.5	30	— 1.1	.....	E	.....	.....	7	.....	7	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.92	760.0	33.5	0.8	.....	SE	23	10.3	.....	.....	10	.....	.....	.....	.....	Rain & snow	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.85	758.2	58.6	14.8	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	Sergt. W. H. Lyne.
Sheffield	29.41	747.0	29.71	754.6	29.5	— 1.4	.....	E	.....	.....	1	.....	2	.....	.....	Inap	Inap.	Blue sky.....	W. F. Cooper.
Silloth Rectory	29.69	754.1	29.72	754.9	32.9	0.5	82	SE	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	F. H. Redford.
Stonyhurst, Observatory	29.28	743.7	29.68	753.9	30.0	— 1.1	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Strathfield Turgiss	29.84	757.9	30.07	763.8	32.2	0.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds.....	Rev. C. H. Griffith, F.M.S.
Thurso	29.84	757.9	29.90	759.4	35	1.7	.....	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.45	748.0	36	2.2	.....	SE	.....	.....	9	.....	10	.....	.....	.....	.....	Snowing.....	W. Newcombe.
Valencia, Observatory	29.28	743.7	29.31	744.5	38.5	3.6	.....	E	28	12.5	.....	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.82	757.4	59.0	15.0	88	SW	.....	.....	2	.....	3k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.80	756.9	32.2	0.1	.....	SE	.....	.....	2	0	0	.....	.....	0	0	Fine..	Andrew Gibb.
Mauritius, Observatory	29.82	757.4	30.00	762.1	82.5	28.1	68	ESE	16.5	7.4	.....	0	2	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	56.6	13.7	67	SE	12	5.4	.....	.....	7	.....	.....	0.02	0.5	Fine	L. L. J. Ellery.
Monach Li't-house, (Hebrides)	.....	.....	29.90	759.4	37	2.8	.....	SE	.....	.....	8	3	0	SE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	65.3	18 5	78	NE	.....	.....	3	1c	2k;s	.....	E *	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.85	758.1	29.89	759.3	26.2	— 3.2	82	E	.....	.....	7	.....	10	.....	.....	.....	.....	.....	
Fanöe	29 82	757.3	29.84	757.8	23.5	— 4.7	88	E	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.....	
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkishoim, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vestervig	29.72	755.0	29.89	759.3	23.4	— 4.8	90	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower cloud; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.03	737.4	29.58	751.4	23.9	— 5	90	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.54	750.2	29.65	753.2	25.5	— 3.6	84	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	29.58	751.3	29.66	753.3	27.0	— 2.8	92	NNE	.....	.....	1	.....	10	.....	W	.....	.....	Snowing	M. Giraud, Director.
Bar-sur-Seine	29.04	737.7	29.65	753.0	23.0	— 5.0	71	SE	.....	.....	1	2c	.....	.....	.....	0	0	Slightly cl'dy	G. Saillard, Director.
Beauvais, Normal School	29 34	745.3	29.65	753.0	24.3	— 4.3	.....	E	.....	.....	2	.....	10	.....	SE	0	0	Covered	Frere Eugene Marie, Director.
Besançon, Normal School	28.76	730.4	29.71	754.6	20.3	— 6.5	.....	W	.....	.....	6	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.77	730.8	29.66	753.4	21.7	— 5.7	85	N	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet Director.
Brest, Naval Observatory	29.08	738.7	29.33	744.9	28.4	— 2.0	84	SE	.....	.....	3	.....	10	.....	SE	.....	.....	Snowing	M. de Rermaur, Director.
Carcassonne, Normal School	29.20	741.6	29.63	752.5	35.6	2	89	SE	.....	.....	2	.....	5	E	E	0.205	5.2	Rain & snow	September, Director.
Caen, Normal School	29.53	750.0	29.60	751.9	30.2	— 1.0	80	SSW	.....	.....	3	.....	5	.....	E	0	0	Cloudy	M. Lair, Director.
Chartres, Normal School	28.96	735.5	29.55	750.6	24.8	— 4	91	E	.....	.....	1	.....	10	.....	E	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.32	741.6	29.65	753.0	24.8	— 4.0	.....	SSE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.15	715.1	29.59	751.6	20.8	— 6.2	84	W	.....	.....	1	.....	10	.....	.....	0.028	0.7	Covered	Allnard, Director.
Commercy, Normal School	28.84	732.4	29.73	755.2	22 5	— 5.3	85	E	.....	.....	3	.....	5n	.....	E	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque *	28.48	723.4	29.62	752.4	29.8	— 1.2	77	NW	.....	.....	1	.....	10	.....	W	0	0	Covered	M. King, Director.
Grenoble, Normal School	28.89	733.8	29.70	754.4	25.2	— 3.8	.....	SSW	.....	.....	1	.....	10n	.....	.....	0.728	18.50	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.28	743.6	29.50	749.2	28.8	— 1.8	96	E	.....	.....	1	.....	10	.....	.....	.....	.....	Hailing	Mouillot, Director.
Le Mans, Normal School	29.26	743.2	29.58	751.3	23.0	— 5	85	ESE	.....	.....	3	.....	8	.....	WNW	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.68	728.5	29.65	753.0	24.6	— 4.1	86	S	.....	.....	1	.....	8	.....	S	0	0	Foggy	Baudry, Director.
Lorient, Naval Observatory	29.32	744.8	29.42	747.3	25.5	— 3.6	96	E	.....	.....	4	.....	.....	.....	E	0.161	4.1	.....	Lt. T. Carre, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Galzin, Director
Mirecourt, Normal School	28.52	724.3	29.69	751.8	22 6	— 5.2	90	SSW	.....	.....	3	.....	k	.....	NNE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.48	748.7	29.69	754.2	27.0	— 2.8	.....	N	.....	.....	1	.....	10	.....	N	0	0	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	27 54	623.3	.....	.....	22.5	— 5.3	100	W	.....	.....	10	.....	10	.....	.....	.....	.....	Snow & fog	Allnard, Director.
Rochefort, Naval Obs'y	29.45	747.9	29.48	748.7	30.2	— 1.0	96	SE	.....	.....	1	.....	10	SE	SE	0.20	5.	Raining	Lt. Decante, Director.
Rouen, Normal School	29.50	749.2	29.58	751.4	26.6	— 3.0	44	SSE	.....	.....	1	.....	5	.....	E	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.41	747.6	29.47	748.4	25.5	— 3.6	67	SE	.....	.....	4	.....	8	ESE	ESE	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.44	747.8	29.61	752.0	23.7	— 4.6	57	ESE	.....	.....	1	.....	.....	.....	E	0	0	.....	L. Rezor, Director.
Tarbes, Normal School	28.54	724.9	29.63	752.5	46.4	8	72	SW	.....	.....	4	.....	10	.....	.....	0.24	6.	Raining	T. Huguet, Director.
Villefranche-sur-Saone, N.S	28.79	731.3	29.56	750.9	23.0	— 5	87	NW	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.4	30.00	762.1	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.65	753.1	21.0	— 6.1	81	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.39	619.6	29.71	754.6	37.8	3.2	51	WSW	18.6	8.3	.....	.....	3	.....	NW	0	0	.....	M. Cave.
Nice	.....	.....	29.56	750.8	45.7	7.6	69	W	.....	.....	3	.....	10	.....	.....	0.500	12.7	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.32	744.7	.....	.....	23.4	— 4.8	69	ESE	.....	.....	2	.....	10	.....	.....	Inap.	Inap	Light snow	Marié Davy, Director
Perpignan	29.52	749.8	29.63	752.5	42.1	5.6	77	SE	5.6	2.5	.....	.....	1	.....	NW	Inap.	Inap.	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade,) H. P	22.05	560.1	.....	.....	28.0	— 5.0	.....	NW	.....	.....	4-6	.....	10	.....	.....	0.445	11.3	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.90	734.1	29.61	752.2	47.8	8.8	78	W	.....	.....	3	.....	6	.....	.....	0.283	7.2	.....	M. Mercadier Julier.
Tours	29.32	744.6	29.51	749.6	24.8	— 4.0	.....	E	.....	.....	2	.....	8	.....	W	0	0	.....	C. Marquet.
Versailles Observatory	.....	.....	29.58	751.3	23.7	— 4.6	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Snowy	Dr. A. Bernay, Director.
Zi-Ka-Wei, (near Shanghai)	30.55	776.0	30.58	776.6	35.1	1.7	82	NNE	3.6	1.6	.....	.....	10n	.....	.....	.....	.....	Snowing	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters or 1,272.9 feet. Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-1	Clouds. Amount. Upper 0-10	Clouds. Amount. Lower 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.76	730.5	29.59	751.6	22.6	— 5.2	85	WSW	.....	.....	4	.....	9	W	.....	Inap.	Inap.	Snowing	Prof. Dr. Hoh.
Berlin	29.73	755.2	29.92	759.9	19.6	— 6.9	84	SE	.....	.....	1	.....	10	.....	.....	0.110	2.8	Snowing	Prof. Arndt.
Breslau	29.14	740.1	29.66	753.4	20.5	— 6.4	81	E	.....	.....	2	.....	10	.....	.....	0.082	2.08	Snowy	Royal University Obs'y
Carlsruhe	29.20	741.7	29.65	753.1	22.8	— 5.1	78	SW	.....	.....	1	.....	10	SW	.....	0.012	0.3	....	Albert Senz.
Cassel	29.03	737.4	29.63	752.7	20.7	— 6.2	85	NE	.....	.....	2	.....	10	NE	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.48	748.9	29.65	753.0	23.4	— 4.8	86	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Snowing	Director Lose.
Emden	.....	.....	.....	.....	21.0	— 6.1	94	E	.....	.....	2	.....	10	.....	.....	0.063	1.6	.....	Prof. Prestel.
Frankfort on the Main	29.30	744.2	29.71	754.7	23.2	— 4.9	.....	NNE	.....	.....	1	.....	3	.....	.....	0.039	1.0	.....	Physical Society.
Friedrichshafen	28.15	715.1	29.67	753.5	20.8	— 6.2	51	ENE	.....	.....	2	.....	8	W	.....	0.150	3.8	.....	M. Wilhelm.
Hamburg	29.71	754.6	29.78	756.5	18.0	— 7.8	94	ESE	.....	.....	4	.....	10	.....	.....	0.063	1.6	Light snow	Captain F. Hegemann
Kiel	29.79	756.6	29.80	757.0	21.7	— 5.7	85	E	.....	.....	3	.....	10	.....	.....	0.132	3.34	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.96	761.0	30.05	763.3	18.5	— 7.5	87	E	.....	.....	5	.....	10	.....	.....	0	0	....	Prof. E Luther.
Köslin	.....	.....	29.84	758.0	16.2	— 8.8	.....	E	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.22	742.3	29.67	753.6	20.1	— 6.6	92	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.11	764.7	30.15	765.9	16.2	— 8.8	85	E	.....	.....	4	.....	10cs;8	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	29.95	760.8	29.97	761.2	22.8	— 5.1	78	E	.....	.....	5	.....	10	.....	.....	0	0	Squally	A. Lothes.
Posen	29.51	749.6	29.82	757.5	19.6	— 6.9	78	E	.....	.....	8	.....	10	.....	.....	0.047	1.2	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.10	739.2	29.69	754.0	22.6	— 5.2	84	Calm	.....	.....	0	.....	7	SW	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.67	728.1	29.66	753.4	21.2	— 6.0	87	N	.....	.....	1	.....	10	.....	.....	0.075	1.9	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.08	713.1	29.69	754.0	17.2	— 8.2	88	Calm	0	0	.....	.....	4ck	.....	W	0.142	3.6	.....	Dr. Van Bebber.
Wustrow, Naval School	29.79	756.6	29.82	757.3	19.2	— 7.1	100	ESE	.....	.....	3	.....	10	.....	.....	0.236	6.0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,401.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.43	747.4	29.82	757.3	61.0	16.1	.....	S	.....	.....	4.0	.....	.....	.....	.....	.....	.....	Covered	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.1	30.02	762.4	72.9	22.7	55	NNW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.53	750.0	30.02	762.4	73.7	23.2	26	NE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.89	759.3	29.93	760.3	74.5	23.6	70	NW	10.0	4.5	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.96	710.2	29.96	761.0	79.1	26.6	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.32	744.8	30.10	764.6	57.0	14.2	53	Calm	0.7	0.3	.....	.....	8	.....	.....	0	0	Cloudy	
Belgaum	27.38	695.4	29.93	760.1	75.3	23.9	61	Calm	0	0	.....	.....	1	.....	.....	0	0	D. clouds	
Roorkee	29.14	740.1	30.08	763.9	62.4	16.9	44	Calm	1.5	0.7	.....	.....	9	.....	.....	0	0	Gloomy	
Agra	29.50	749.4	30.09	764.3	65.8	18.8	49	N	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.90	733.9	29.94	760.5	79.4	26.6	41	Calm	2.1	0.9	.....	.....	2	.....	E	0	0	D. clouds	
Lucknow	29.66	753.5	30.05	763.3	65.4	18.6	40	N	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.74	755.4	30.06	763.6	63.1	17.3	71	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.82	757.4	30.01	762.2	63.6	17.6	83	Calm	0.4	0.2	.....	.....	2	E	E	0	0	.....	
Hazaribagh	27.95	710.0	30.02	762.4	67.0	19.8	53	NW	7.5	3.4	.....	.....	1	.....	.....	0	0	.....	
Cuttack	29.92	760.0	30.00	762.1	74.8	23.8	56	S	1.2	0.5	.....	.....	1	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	30.00	762.1	30.03	762.7	69.7	20.9	76	WSW	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	.....	.....	.....	.....	68.9	20.5	54	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.93	760.3	30.03	762.7	71.4	22.0	50	WNW	3.3	1.5	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.73	755.1	30.08	764.0	61.7	16.4	84	NE	0.8	0.4	.....	.....	2	.....	.....	0	0	Blue sky	
Jubbulpore	28.62	727.0	30.02	762.4	71.8	22.1	28	E	2.8	1.2	.....	.....	0	.....	.....	0	0	Blue sky	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.22	742.1	29.64	752.9	35.2	1.8	67	E	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.52	749.8	29.63	752.7	34.3	1.3	71	Calm	0	0	.....	.....	10	N	.....	0.055	1.4	.....	Prof. Dott. Lorenzoni
Milan	29.06	738.0	29.59	751.6	30.2	— 1.0	90	SSW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.69	728.7	29.63	752.7	30 4	— 0.9	84	ESE	.....	.....	2	.....	10	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.61	701.3	29.58	751.4	28.6	— 1.9	58	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.34	745.1	29.53	750.1	38.3	3.5	95	Calm	0	0	.....	.....	10	SE	.....	0.201	5.1	.....	Prof. G. M. Garibaldi.
Florence	29.38	746.2	29.64	752.9	38 3	3.5	80	WNW	.....	.....	2	.....	10	WSW	.....	0	0	.....	Cav. F Meucci
Leghorn	29.46	748.2	29.54	750.4	47.5	8.6	54	W	4.3	1.9	.....	.....	6	W	.....	0.106	2.7	.....	Prof. P. Monte.
Pesaro	29.58	751.4	29.63	752.7	35.4	1.9	77	N	7.4	3.3	.....	.....	10	W	.....	0 059	1.5	.....	Prof. Luigi Guidi.
Rome	29.50	749.3	29.68	753 9	47.3	8.5	82	S	1.8	0.8	.....	.....	10	.....	.....	0.449	11.4	.....	Prof. P S. Ferrari.
Lecce	29.47	748.4	29.72	755.0	55.0	12.8	68	WSW	11.2	5.0	.....	.....	5	WSW	.....	0.213	5.4	.....	Prof. C. De Giorgi.
Cagliari	29.49	749.1	29.69	754.0	55.9	13.3	56	SE	.....	.....	2	.....	9	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.86	733.0	29.76	755.9	50.4	12.2	73	SW	0	0	.....	.....	10	.....	.....	0.555	14.1	.....	Prof. D. Conti.
Palermo	29.52	749.9	29.78	756 4	54.5	12.5	52	W	6.9	3.1	.....	.....	7	W	.....	0.197	5.0	.....	Prof. G. Cacciatore.
Syracuse	29.71	754.6	29.78	756.4	56.5	13.6	59	WSW	13.7	6.1	.....	.....	8	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.18	741.1	29.73	755.2	50.0	10.0	77	W	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.41	772.4	30.43	772.9	36.2	2.3	81	N	10.7	4.8	.....	.....	4ck;cs	W	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.19	766.8	30.40	772.1	35.8	2.1	89	SE	0.8	0.3	.....	.....	10ck;s	.....	.....	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo, Observatory	30.20	767.1	30.27	768.8	34.7	1.5	57	NNW	9.2	4.1	.....	2cs;ck	0	SW	.....	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9.30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.09	637.2	30.25	768 4	45.0	7.2	57	Calm	.....	.....	0	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.47	621.6	30.12	765.2	55.0	12.8	81	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.5	30.24	768.0	46.0	7.8	88	Calm	0	0	.....	3c	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	45.7	7.6	63	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.23	767.8	30.24	768.1	59	15	84	S	.....	.....	1	9	0	S	.....	0	0	.....	M. M. Cházaro.
San Luis Potosi	24.21	614.7	29.58?	751.2?	39.0	3.9	32	N	.....	.....	.....	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	30.19	766.9	30.22	767.6	59.0	15.0	78	SW	0	0	.....	2ck	5sk	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	22.58	573.4	.....	.....	51.8	11	21	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.43	595.0	30.20	767.0	42.1	5.6	67	NNE	1.8	0.8	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.43	722.2	30.12	765.0	70.9	21.6	66	NE	.....	.....	1	0	1	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.14	765.5	30.27	768.9	61	16.1	.....	Calm	.....	.....	0	5c	3s	E	.....	0	0	Misty	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.68	753.8	29.68	753.8	24.3	— 4.3	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	29.68	753.9	29.74	755.3	20.8	— 6.2	.....	E	.....	.....	3	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.71	754.6	29.71	754.6	22.3	— 5.4	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.68	753.8	29.68	753.8	22.5	— 5.3	100	ENE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.66	753.3	29.71	754.5	23.2	— 4.9	76	ENE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.12	765.1	30.18	766.5	27.0	— 2.8	66	SE	8.5	3.8	.....	.....	0	.....	.....	0	0	.....	.....
Brône	30.31	769.8	30.35	770.8	26.6	— 3.0	57	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....
Christiania	30.21	767.3	30.37	771.4	18 3	— 7.6	75	NE	18	8	.....	.....	4	.....	.....	0	0	.....	.....
Tromsö	30.25	768.3	30.29	769.4	37.4	3.0	87	SW	9	4	.....	.....	10	.....	.....	0	0	.....	.....

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.01	762.2	30.20	767.1	57 4	14.1	84	WNW	14.3	6.4	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.7	30.00	762.1	54.0	12.2	67	WNW	12.5	5.6	.....	.....	9	WNW	.....	0.094	2.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.14	765.5	30.26	768.7	66 2	19.0	72	Calm	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.6	30.03	762 8	56.5	13.6	61	WNW	13.7	6.1	.....	.....	7	WSW	.....	0.287	7.3	.....	The Staff.
Ponta Delgada, (Azores)	30.20	767.1	30.27	768.9	61.5	16.4	69	WNW	15.0	6.7	.....	.....	3	.....	.....	0	0	.....	.....

NOTE.—The originals give the wind-velocity in kilometers of the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. F. R. Bastos, Com'd't.
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	30.04	762.9	77.7	25.4	.....	ENE	.....	.....	3	.....	1	.....	.....	3	ESE	D. clouds.....	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Quanza, N. 3° 30', E. 1° 55'	.....	.....	29.94	760.4	84.2	29.0	.....	NW	.....	.....	1	.....	4	.....	SE	1	SW	D. clouds.....	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loanda.	.....	.....	29.84	758.0	84.2	29	.....	WNW	.....	.....	2	.....	4	.....	Calm	0	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China.	.....	.....	30.32	770.0	59 9	15.5	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky	M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.36	745.6	29.80	757.0	21.6	— 5.8	95	E	22	10	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs
Wilna	29.74	755.3	30.19	766.9	15.8	— 9.0	85	E	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	30.29	769.4	30.57	776.4	1.4	—17.0	73	ENE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.57	776 5	30.59	776.9	5.4	—14.8	100	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Kieff	29.34	745.3	30.02	762.5	25.5	— 3.6	98	ESE	18	8	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Physical Cabinet.
Nikolaiev	29.87	758.7	29.94	760.5	32.4	0.2	96	ESE	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.07	763.8	30.09	764.3	39.9	4.4	100	E	11	5	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Moscow	30.00	761.9	30.63	777.9	— 5.8	—21.0	93	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.94	760 4	30.15	765.8	29.8	— 1.2	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	MeteorologicalObs.
Archangel	30.25	768 3	30.27	768.8	24.1	— 4.4	93	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.82	732.1	30.27	768.8	49.6	9.8	60	SE	4	2	.....	.....	6s	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.35	770.8	30.26	768.7	23.7	— 4.6	79	N	9	4	.....	.....	9s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.95	760.7	30.48	774.2	— 7.4	—21.9	78	NNW	2	1	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.15	765.8	30.46	773.6	— 3.1	—19.5	86	W	2	1	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.05	737.9	30.10	764.6	6.6	—14.1	75	W	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.80	756.9	30.04	763.1	31.6	— 0.2	89	WNW	20	9	.....	.....	10n	.....	.....	.....	.....	.....	.....
Tashkend	28.42	721.9	30.19	766.7	41.7	5.4	58	Calm	0	0	.....	.....	8	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.75	755.6	30.34	770.7	— 5.8	—21.0	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.93	760.3	30.26	768.7	— 9.4	—23.0	79	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.30	769.7	30.45	773.3	26.8	— 2.9	42	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nikolaievsk, on the Amoor	30.00	761.9	30.08	764 1	—18.4	—28.0	.....	W	4	2	.....	.....	1c	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.52	749.8	29.63	752.6	53.6	12	56	WNW	3.2	1.44	.....	.....	.....	.....	.....	0.030	0.76	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	29.67	753.7	29.73	755 2	55.8	13.2	64	NW	4.9	2.18	.....	.....	10	.....	.....	0.071	1.8	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.80	680.6	.....	.....	44.8	7.1	75	SW	10.8	4.84	.....	.....	6	.....	.....	0.236	6.0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.62	701.6	.....	.....	50.7	10.4	61	NW	16.8	7.52	.....	0	8	.....	.....	0.043	1.1	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.74	755.4	29.89	759.2	68.1	20.3	51	W	1.7	0.78	.....	.....	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.90	734.1	29 80	757.0	50.2	10.1	86	SW	9.4	4.2	.....	.....	10	.....	.....	0.563	14.3	Raining	R. Gil Villanueva, Dir.
SUB-SERIES																			
Havana, Cuba, W. I.	30.12	764.9	30.18	766.6	73.1	22.8	90	NE	2.7	1.2	.....	10ck	1s	WNW	.....	0	0	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	759.0	29.93	760.3	77.0	25.8	90	N	1.8	0.8	.....	0?	0?	.....	.....	0.37	9.3	Covered?.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.2	30.07	763.8	60.8	16.0	84	NW	8.6	3.8	.....	0	10	.....	W	0.173	4.4	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.06	763.4	30.15	765.7	77.4	25.2	83	E	10.8	4.81	.....	4k	3c	E	E	0	0	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'e

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.42	772.6	30.46	773.6	— 5.4	—20.8	.....	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	
Umea	30.41	772.4	30.46	773.7	0.8	—17.6	78	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Hernosand	30.55	776.0	30.60	777.3	— 2.6	—19.2	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Stockholm	30.19	766.9	30.37	771.4	25.3	— 3.7	93	ENE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Wisby	30.09	764.2	30.15	765.7	28.4	— 2.0	84	ESE	.....	.....	7	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.34	770.7	30.42	772.6	22.8	— 5.1	83	NNE	8.3	3.7	.....	.....	7	.....	E	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.17	715.5	29.70	754.3	22.3	— 5.4	64	SSW	.....	.....	2	.....	4	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	27.95	710.0	29.71	754.7	20.5	— 6.4	62	SW	.....	.....	1	.....	2	.....	.....	0.157	4.0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —12.2 mm.; Thermometer, +6.7 cent.; Relative Humidity, —16 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.6	60.8	16.0	67	S	16	7.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.76	755.9	55.0	12.8	.....	S	.....	.....	2	.....	10	.....	.....	3.94	100.	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.00	762.0	30.11	764.9	69.4	20.8	53	NE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	29.46	748.3	29.55	750.6	21.7	— 5.7	77	NW	7.2	3.2	.....	.....	.....	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.84	757.9	30.18	766.6	— 2	—18.9	.....	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	W. R. Bigg.
*Chatham, N. B	29.38	746.2	29.44	747.8	20	— 6.7	92	NW	17	7.6	.....	.....	10n	.....	NW	0.25	6.3	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.06	738.1	29.10	739.1	28	— 2.2	98	N	26	11.6	.....	.....	10n	.....	Calm	0.350	8.89	Light snow	H. J. Cundall, C. F.
Cornwall, Ontario	29.92	760.0	30.13	765.3	1.0	—17.2	100	W	.....	.....	4	0	1s	.....	.....	0	0	Fair.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.87	758 7	29.92	760.0	35.1	1.7	100	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Overcast.....	W. H. Bevis.
*Father Point, Quebec	29.72	754.9	29.74	755.4	10	—12.2	69	NW	25	11.2	.....	.....	10s	.....	NW	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.49	749.0	29.56	750.8	18.0	— 7.3	77	NW	15	6.7	.....	.....	10s	.....	.....	0.35	8.9	Overcast.....	Prof. Harrison.
*Fort Garry Manitoba	29.13	739.9	30.07	763.8	—10	—23.3	96	W	2	0.9	.....	0	0	.....	.....	0.17	4.3	Clear.....	James Stewart.
Granton, Ontario	29.09	738.9	30.30	769.6	12	—11.1	.....	SW	.....	.....	2	.....	10n	.....	.....	0	0	Overcast.....	James Grant.
*Halifax, N. S	28.86	733.0	29.00	736.6	28	— 2.2	99	E	7	3.1	.....	.....	10n	.....	.....	0.540	13.72	Light snow.	F. Allison, M. A.
Hamilton, Ontario	29.79	756.7	30.20	767.1	15.7	— 9.1	74	SW	.....	.....	1	5k	0	SW	.....	0	0	Fair.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.23	742.4	29.25	742 9	28	— 2.2	100	SE	.....	.....	4	.....	10	.....	.....	0.19	4.8	Snowing.....	E. Weedon.
*Kingston, Ontario	29.87	758.7	30.25	768.3	2	—16.7	65	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	28.79	733.8	28.83	732.0	30.7	— 0.7	93	E	22	9.8	.....	.....	10n	.....	.....	0.60	15.2	Snowing.....	C. H. Rigby.
Montreal, Quebec	29.94	760.5	29.98	761.5	—12.7	—24.8	80	SW	.....	.....	2	4cs	0	.....	.....	0	0	Fair.....	C. H. McLeod, C. E
Moose Factory, Ontario	29.86	758.4	30.08	764.0	2	—16.7	80	W	21	9.4	.....	0	2ks	.....	.....	0	0	Clear.....	J. R. Nason.
*Parry Sound, Ontario	29.42	747.2	30.21	767.3	— 3	—19.4	77	NE	6	2.7	.....	5k	5ks	NW	NW	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.22	767.6	10.7	—11.8	53	Calm	.....	.....	.....	.....	10ks	.....	.....	.....	.....	Overcast.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.57	751.1	30.23	767.8	14	—10.0	82	SW	7	3.1	.....	10k	0	SW	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	28.86	733.0	28.92	734.6	19.9	— 6.7	.....	NW	9	4.0	.....	.....	.....	.....	.....	0.60	15.2	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.63	752.6	30.34	770.6	16	— 8.9	82	W	.....	.....	.....	.....	10n	.....	W	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.50	749 3	29.85	758.2	0	—17.8	70	W	.....	.....	5	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.68	753.9	30.20	767.1	— 4	—20.0	89	W	4	1.8	.....	.....	10n	.....	.....	0	0	Hazy.....	W. H. McIntyre.
St. Andrews, N. B	29.48	748.8	29.53	750.0	18	— 7.8	87	NW	.....	.....	4	.....	10n	.....	.....	0.55	14.0	Cloudy.....	Dr. Gove.
St. John, N. B	29.33	745.0	29 50	749.3	20	— 6.7	100	NW	29	13.0	.....	.....	10n	.....	.....	0.49	12.4	Light snow.	G. Murdock, C. E.
*Saugeen, Ontario	29.42	747 2	30.19	766.8	19	— 7.2	92	SW	16	7.2	.....	.....	10s	.....	.....	0.57	14.5	Cloudy.....	K. Stewart.
Stayner, Ontario	29.37	746.0	30.23	767.8	12	—11.1	82	E	3	1.3	.....	8k	0	W	.....	0.05	1.3	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.87	733.3	30.27	768.8	12.0	—11.1	94	SW	12	5.4	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M. A
*Sydney, C. B	28.86	733 0	28.90	734.0	32	0.0	96	N	12	5.4	.....	.....	10n	.....	.....	0.44	11.2	Light snow.	T. C. Hill.
*Toronto, Ontario	29.81	757.2	30.23	767 8	17	— 8.3	92	SW	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.33	745.0	29.43	747.5	29.0	— 1.7	89	N	24	10.7	.....	.....	10n	.....	.....	0.70	17.8	Snowing.....	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	30.0	— 1.1	100	SE	.....	.....	.....	.....	10	.....	.....	0.32	8.1	Snowing.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.91	759.7	30.16	766.1	10	—12.2	79	NW	12	5.4	.....	0	1s	.....	NW	0.78	19.8	Clear	
Alpena, Michigan	29.50	749.3	30.21	767.3	5	—15.0	75	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.16	740.7	30.42	772.6	19	— 7.2	69	NW	12	5 4	.....	0	0	.....	.....	0.10	2.5	Clear	
Atlantic City, New Jersey	30.26	768.6	30.28	769.1	25	— 3.9	75	NW	16	7.2	.....	0	5ks	.....	W	0.78	19.8	Fair	
Augusta, Georgia	30.26	768.6	30.45	773.4	24	— 4.4	48	W	1	0.4	.....	0	Haze	.....	.....	0.11	2.8	Hazy	
Baltimore, Maryland	30.35	770.9	30.40	772.1	21	— 6.1	71	W	11	4.9	.....	0	Sm'e	.....	Calm	0.60	15.2	Clear	
Barnegat, New Jersey	30.22	767.6	30.24	768.1	24	— 4.4	74	NW	20	8.9	.....	0	2s	.....	Calm	1.66	42.2	Clear	
Bismarck, Dakota	28.16	715.3	30.02	762 5	— 1	—18.3	100	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.66	728.0	30.04	763.0	34	1.1	79	SE	6	2.7	.....	0	5s	.....	SE	0	0	Clear	
Boise City, Idaho	27.06	687.3	30.12	765.0	24	— 4.4	79	S	3	1.3	.....	0	8s	.....	NW	0.32	8.1	Fair	
Boston, Massachusetts	29.84	757.9	30.00	762.0	19	— 7.2	54	NW	16	7.2	.....	0	0	.....	.....	1.02	25.9	Clear	
Breckenridge, Minnesota	28.93	734.8	30.01	762 2	10	—12.2	100	NW	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Brownsville, Texas	30.14	765.5	30.21	767.3	44	6.7	92	E	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Buffalo, New York	29.54	750.3	30.30	769.6	15	— 9.4	82	SW	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	28	— 2.2	11	Calm	0	0	.....	0	0	.....	SW	0.12	3.0	Cloudy	
Burlington, Vermont	29.76	755.9	30.08	764 0	10	—12.2	58	W	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	30.10	764 5	30.55	776.0	7	—13.9	100	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fog	.....	Calm	0	0	Foggy	
Camp Grant, Arizona	24.94	633.5	29.74	755.4	33	0.6	70	NE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	.....	.....	.....	.....	21	— 6.1	32	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.42	696.5	29.99	761.7	25	— 3.9	77	E	4	1.8	.....	0	0	.....	.....	0.26	6.6	Cloudy	
Cape Hatteras, N. Carolina	30.38	771.6	30.39	771.9	32	0.0	69	N	16	7.2	.....	0	0	.....	.....	0.35	8.9	Clear	
Cape Henry, Virginia	30.37	771.4	30.39	771.9	26	— 3.3	63	NW	32	14.3	.....	0	0	.....	.....	0.18	4.6	Clear	
Cape Lookout, N. Carolina	30.38	771.6	30.39	771.9	30	— 1.1	89	NW	17	7.6	.....	0	0	.....	.....	0.18	4.6	Clear	
Cape May, New Jersey	30.29	769.4	30.32	770.1	24	— 4.4	61	NW	35	15.6	.....	.....	10s	.....	NW	1.17	29.7	Cloudy	
Castroville, Texas	29.39	746.5	30.14	765.5	28	— 2.2	88	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Charleston, South Carolina	30.35	770.9	30.43	772.6	32	0.0	69	N	6	2.7	.....	0	0	.....	.....	0.10	2.5	Clear	
Cheyenne, Wyoming	23.79	604.3	29 73	755.1	15	— 9.4	82	W	4	1.8	.....	5ck	0	SW	.....	0.02	0.5	Fair	
Chicago, Illinois	29.58	751.3	30.37	771.4	3	—16.1	73	SW	7	3.1	.....	0	Fog	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.82	757.4	30.55	776.7	— 1	—18.3	84	SE	2	0.9	.....	.....	Fg;sm'	.....	Calm; SE	0.04	1.0	Foggy	
Cleveland, Ohio	29.64	752.8	30.46	773.7	6	—14.4	76	SW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Coleman City, Texas	28.25	717.5	30.01	762 2	28	— 2.2	88	S	8	3.6	.....	5cs	2s	Calm	S	0	0	Fair	
Columbus, Ohio	29.57	751.1	30.52	775.2	4	—15.6	74	S	4	1.8	.....	0	Fog	.....	Calm	0.06	1.5	Clear	
Corpus Christi, Texas	28.08	713.2	29.84	757.9	30	— 1.1	78	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Corsicana, Texas	29.76	755.9	30.26	768.6	24	— 4.4	74	E	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.61	752.1	30.33	770.4	6	—14.4	76	SW	8	3.6	.....	0	1s	.....	SW	0	0	Clear	
Deadwood, Dakota	25.22	640.6	.....	.....	10	—12.2	79	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Decatur, Texas	28.94	735.1	30.21	767.3	20	— 6 7	27	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Denison, Texas	29.35	745.5	30.21	767.3	21	— 6.1	72	SE	11	4.9	.....	5cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.56	623.8	29.78	756.4	6	—14.4	52	S	4	1 8	.....	8ck	2s	W	W	0	0	Cloudy	
Des Moines, Iowa	29.24	742.7	30.21	767.3	8	—13 3	78	SW	3	1.3	.....	0	5s	.....	W	0	0	Fair	
Detroit, Michigan	29.64	752.8	30.40	772.1	2	—16.7	72	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.26	692.4	29.68	753.9	17	— 8.3	83	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Dubuque, Iowa	29.49	749.0	30.29	769.4	— 4	—20.0	65	S	1	0.4	.....	1ck	Fog	SW	Calm	0	0	Foggy	
Duluth, Minnesota	29.21	741 9	29.94	760.5	10	—12.2	90	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Threatening	
Eagle Pass, Texas	29.34	745.2	30.13	765.3	31	— 0.6	69	SE	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Eastport, Maine	29.48	748.8	29.55	750.6	17	— 8.3	83	NW	31	13.9	.....	5cs	8ks	W	NW	0.27	6.9	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	36	2.2	90	SE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	41	5.0	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.58	751.3	30.36	771.1	18	— 7.8	84	SW	14	6.3	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Escanaba, Michigan	29.42	747.2	30.14	765.5	3	—16.1	73	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.47	723.1	30.07	763.8	30	— 1.1	78	SE	.....	.....	2	2k	5s	SW	Calm	0	0	Fair	
Fort Craig, New Mexico	25.29	642.4	29.36	745.7	10	—12.2	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.04	636.0	30.00	762.0	42	5.6	35	SW	6	2.7	.....	10k	0	W	.....	0	0	Cloudy	
Fort Gibson, Indian Ter	29.66	753.4	30.24	768.1	19	— 7.2	77	SE	10	4.5	.....	2c	2s	NW	SW	0	0	Fair	
Fort Griffin, Texas	28.75	730.2	30.11	764.8	22	— 5.6	72	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.74	704.6	29.73	755.1	35	1.7	61	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.86	733.0	30.05	763.3	22	— 5.6	86	S	16	7.2	.....	0	2s	.....	SW	0	0	Fair	
Fort Stevenson, Dakota	28.19	716.0	.....	.....	— 9	—22.8	100	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.32	719.3	29.94	760.5	37	2.8	81	S	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Galveston, Texas	30.24	768.1	30.29	769.4	41	5.0	82	E	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy	
Graham, Texas	28.97	735.8	30.09	764.3	26	— 3.3	88	SE	10	4.5	.....	0	8ks	.....	SW	0	0	Fair	
Grand Haven, Michigan	29.59	751.6	30.29	769.4	20	— 6.7	85	W	15	6.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Indianapolis, Indiana	29.61	752.1	30.51	774.9	0	—17.8	70	Calm	0	0	.....	0	Fg;sm'	.....	Calm	0	0	Smoky	
Indianola, Texas	30.22	767 6	30.25	768.3	40	4.4	82	E	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Jacksboro, Texas	28.92	734.6	30.12	765.0	29	— 1.7	89	SW	12	5.4	.....	5cs	0	SE	.....	0	0	Fair	
Jacksonville, Florida	30.37	771.4	30.39	771.9	33	0.6	70	NW	4	1.8	.....	0	0	.....	.....	0.08	2.0	Clear	
Keokuk, Iowa	29.62	752.3	30.31	769 9	12	—11.1	80	SW	9	4.0	.....	5c	0	W	.....	0	0	Fair	
Key West, Florida	30.18	766.6	30.22	767.6	63	17.2	83	NE	20	8.9	.....	1c	1s	Calm	Calm	0	0	Clear	
Kittyhawk, North Carolina	30.34	770 6	30.36	771.1	29	— 1.7	67	N	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.44	747.8	30.56	776.2	13	—10.6	91	NE	4	1.8	.....	0	Haze	.....	NE	0.06	1.5	Dense haze	
La Crosse, Wisconsin	29.32	744.7	30.14	765.5	7	—13.9	77	S	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
La Mesilla, New Mexico	25.88	657.3	30.04	763.0	15	— 9.4	82	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Cloudy	
Laredo, Texas	29.72	754.9	30.09	764.3	35	1.7	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.29	744.0	30.22	767.6	13	—10.6	81	SE	6	2.7	.....	9ck	0	W	.....	0	0	Cloudy	
Los Angeles, California	29.66	753.4	30.01	762.2	39.6	4.2	69	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.90	759.4	30.55	776.0	1	—17.2	71	SW	1	0.4	.....	.....	Sm'e	.....	Calm	0.03	0.8	Dense smoke	
Lynchburg, Virginia	29.70	754.4	30.44	773.2	22	— 5.6	57	N	8	3.6	.....	0	0	.....	.....	0.51	13.0	Clear	
Madison, Wisconsin	29.14	740 1	30.24	768.1	3	—16.1	73	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.36	743.2	30.02	762.5	11	—11.7	80	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.42	721.9	30.29	769.4	29	— 1.7	77	SE	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Memphis, Tennessee	30.13	765.3	30.48	774.2	12	—11.1	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.47	748.5	30.27	768.8	11	—11.7	80	SW	5	2.2	.....	5c	5s	Calm	Calm	0	0	Cloudy	
Mobile, Alabama	30.41	772.4	30.45	773.4	24	— 4.4	87	N	7	3.1	.....	1cs	0	NW	.....	0	0	Clear	
Montgomery, Alabama	30.21	767.3	30.47	773.9	22	— 5.6	78	NW	2	0.9	.....	1c	0	NW	.....	0	0	Clear	
Morgantown, West Virginia	29.34	745.2	30.46	773.7	30	— 1.1	78	SW	10	4.5	.....	5cs	1s	SW	Calm	0.95	24.1	Fair	
Mt. Washington, N. H.	23.07	586.0	29.43	747.5	—12	—24.4	75	NW	81	36.2	.....	.....	Fog	.....	NW	0.75	19.1	Foggy	
Nashville, Tennessee	29.94	760.5	30.54	775.7	9	—12.8	78	Calm	0	0	.....	0	Sm'e	.....	.....	0.03	0.8	Clear	
New Haven, Connecticut	30.02	762.5	30.14	765.5	19	— 7.2	76	NW	15	6.7	.....	0	0	.....	.....	0.83	21.1	Clear	
New London, Connecticut	30.06	763.5	30.12	765.0	18	— 7.8	68	NW	14	6.3	.....	0	0	.....	.....	0.52	13.2	Clear	
New Orleans, Louisiana	30.34	770.4	30.39	771 9	33	0.6	70	N	4	1.8	.....	.....	10ks	.....	N	0	0	Cloudy	
Newport, Rhode Island	30.01	762.2	30.07	763.8	20	— 6.7	70	W	18	8.0	.....	0	0	.....	.....	1.66	42.2	Clear	
New York, New York	30.01	763.0	30.23	767.8	22	— 5.6	72	NW	25	11.2	.....	1k	0	NW	.....	0 80	20.3	Clear	
Norfolk, Virginia	30.35	770.9	30.42	772.6	24	— 4.4	61	N	12	5.4	.....	0	0	.....	.....	0.15	3.8	Clear	
North Platte, Nebraska	26.97	685.0	29.72	754.9	12	—11.1	80	NW	4	1.8	.....	10k	0	NW	.....	0	0	Cloudy	
Olympia, Washington Ter	29.97	761.2	30.01	762.2	41	5.0	82	S	5	2.2	.....	.....	10n	.....	S	0.04	1.0	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	nches.	Mill meters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Low'r —10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Omaha, Nebraska	28.94	735.1	30.14	765.5	12	—11.1	80	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.88	758.9	30.22	767.6	21	— 6.1	86	NW	16	7.2	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Pembina, Dakota	29.09	738.9	30.05	763.3	—16	—26.7	100	W	6	2.7	.....	0	0	.....	.....	0.21	5.3	Clear	
Philadelphia, Pa	30.24	768.1	30.30	769.6	25	— 3.9	75	NW	18	8.0	.....	.....	10ks	.....	NW	0.71	18.0	Cloudy	
Phœnix, Arizona	28.71	729.2	30.59	777.0	32	0.0	69	Calm	.....	.....	0	2ck	0	SW	.....	0	0	Fair	
Pike's Peak, Colorado	17.28	438.9	29.48	748.8	— 6	—21.1	100	SW	8	3.6	.....	.....	10n	.....	Calm	0.11	2.8	Light snow	
Pioche, Nevada	23.84	605.5	29.61	752.1	15	— 9.4	82	N	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pittsburg, Pennsylvania	29.57	751.1	30.47	773.9	12	—11.1	89	W	8	3.6	.....	2k	0	W	.....	0.16	4.1	Clear	
Port Huron, Michigan	29.59	751.6	30.33	770.4	8	—13.3	78	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.80	756.9	29.85	758.2	22	— 5.6	72	NW	12	5.4	.....	1k	0	Calm	.....	0.59	15.0	Clear	
Portland, Oregon	30.06	763.5	30.17	766.3	41.7	5.3	83	SE	6	2.7	.....	.....	10s	.....	.....	0.03	0.8	Cloudy	
Prescott, Arizona	24.52	622.8	29.88	758.9	10	—12.2	68	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.14	740.1	30.02	762.5	22	— 5.6	56	N	10	4.5	.....	5k	5s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.26	768.6	30.28	769.1	50	10.0	79	N	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Red Bluff, California	29.84	757.9	30.22	767.6	35	1.7	70	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.99	761.7	30.23	767.8	33	0.6	79	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.56	750.8	30.22	767.6	17	— 8.3	83	W	23	10.3	.....	.....	10s	.....	Calm	0.35	8.9	Cloudy	
Roseburg, Oregon	29.68	753.9	30.27	768.8	39.0	3.9	91	S	2	0.9	.....	.....	10s	.....	SW	0.12	3.0	Cloudy	
Sacramento, California	30.06	763.5	30.14	765.5	35	1.7	76	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.79	756.7	30.43	772.9	7	—13.9	77	SE	7	3.1	.....	0	8ks; s	.....	W; Calm	0	0	Fair	
St. Marks, Florida	30.38	771.6	30.40	772.1	27	— 2.8	76	N	5	2.2	.....	0	0	.....	.....	0.13	3.3	Clear	
St. Paul, Minnesota	29.10	739.1	30.00	762.0	7	—13.9	77	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	24	— 4.4	80	NW	4	1.8	.....	.....	10s	.....	Calm	0.24	6.1	Cloudy	
San Antonio, Texas	29.48	748.8	30.11	764.8	29	— 1.7	89	SE	2	0.9	.....	8ck	0	Calm	.....	0	0	Cloudy	
San Diego, California	29.97	761.2	30.05	763.3	40.5	4.7	91	NE	6	2.7	.....	0	0	.....	.....	0.20	5.1	Clear	
Sandusky, Ohio	29.70	754.4	30.46	773.7	7	—13.9	77	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.18	766.6	30.22	767.6	24	— 4.4	61	NW	36	16.1	.....	5k	0	NW	.....	1.30	33.0	Fair	
San Francisco, California	30.10	764.5	30.17	766.3	44.7	7.1	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	22.97	583.4	29.51	749.5	12	—11.1	61	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Savannah, Georgia	30.32	770.1	30.42	772.7	29	— 1.7	67	NW	6	2.7	.....	0	0	.....	.....	0.04	1.0	Clear	
Shreveport, Louisiana	30.14	765.5	30.38	771.6	19	— 7.2	84	SE	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	24.06	611.1	30.54	775.7	29	— 6.7	84	W	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	30.39	771.9	30.43	772.9	29	— 1.7	67	N	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Springfield, Massachusetts	29.96	761.0	30.10	764.5	17	— 8.3	51	NW	7	3.1	.....	0	0	.....	.....	0.50	12.7	Clear	
Stockton, Texas	26.82	681.2	29.82	757.4	35	1.7	53	SE	12	5.4	.....	10k	0	Calm	.....	0	0	Cloudy	
Thatcher's Island, Mass	29.88	758.9	29.94	760.5	18	— 7.8	68	NW	36	16.1	.....	0	0	.....	.....	0.92	23.4	Clear	
Toledo, Ohio	29.67	753.6	30.13	772.9	7	—13.9	77	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	33	0.6	33	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.39	771.9	30.42	772.7	31	— 0.6	79	N	14	6.3	.....	0	0	.....	.....	Inap.	Inap	Clear	
Umatilla, Oregon	29.73	755.1	30.26	768.6	19.0	— 7.2	100	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Island	.....	.....	.....	.....	35	1.7	80	SE	.....	.....	2	.....	10s	.....	S	0	0	Cloudy	
Uvalde, Texas	29.24	742.7	30.11	764.8	32	0.0	69	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	30.19	766.8	30.48	774.2	23	— 5.0	86	SE	4	1.8	.....	.....	10s	.....	SE	Inap.	Inap	Cloudy	
Virginia City, Montana	24.06	611.1	29.54	750.3	17	— 8.3	67	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.74	755.4	30.13	765.3	35	1.7	82	SE	4	1.8	.....	Haze	5s	Calm	SE	0	0	Fair	
Washington, D. C	30.29	769.4	30.42	772.7	18	— 7.8	68	NW	15	6.7	.....	Haze	1ks	Calm	Calm	0.69	17.5	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	27	— 2.8	76	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.33	770.4	30.42	772.7	29	— 1.7	59	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.67	652.0	30.03	762.8	9	—12.8	78	SW	9	4.0	.....	10k	0	N	.....	0.31	7.9	Cloudy	
Wood's Holl, Mass	29.92	760.0	29.96	761.0	22	— 5.6	58	NW	34	15.2	.....	0	2s	.....	.....	1.20	30.5	Clear	
Yankton, Dakota	28.74	730.0	30.19	766.8	— 4	—20.0	65	N	1	0.4	.....	5c	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.77	756.1	29.94	760.5	39	3.9	82	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.58	725.9	30.11	764.8	18	— 7.8	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.13	765.3	30.15	765.8	75	23.9	85	Calm	0	0	.....	9k	0	SW	.....	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.22	767.6	30.23	767.8	73	22.8	85	Calm	0	0	.....	2k	2s	Calm	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	30.02	762.5	30.10	764.5	78	25.6	.....	NE	14.2	6.3	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	81	27.2	78	NE	.....	.....	3	3c	5k	E	.....	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.85	758.2	29.90	759.4	—27.0	—32.8	.....	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramarilo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,838 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,700 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,543 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,840 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,576 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,450 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 m.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.19	766.8	38.5	3.6	39	3.9	73	W	13	5.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.40	772.1	28	— 2.2	28	— 2.2	77	NE	3	1.3	.....	.....	0	.....	.....	0.31	7.9	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	30.00	762.0	52	11.1	17	— 8.3	83	WNW	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan *	30.24‡	768.1‡	.....	.....	35	1.7	54	NNW	.....	.....	2		1ck	.....	NW	0	0	.....	.....	Fair.....	
Alliance, Smyrna, Turkey	29.96‡	761.0‡	.....	.....	64	17.8	73	S	.....	.....	3–6		10	.....	S	.....	.....	.....	.....	Threatening	
Ashuelot, N. 13° 43′, E. 100° 29′	30.06	763.5	79	26.1	79	26.1	70	N	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La.	30.28	769.1	30	— 1.1	32	0.0	90	NE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Fair?.....	
Colorado, New York, N. Y.	30.14	765.5	22	— 5.6	22	— 5.6	100	NW	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, Havre, France	29.50‡	749.3‡	.....	.....	26	— 3.3	88	ESE	.....	.....	3	.....	8	.....	Calm	.....	.....	.....	.....	Pleasant.....	
Despatch, Constantinople, Turkey	29.90‡	759.4‡	.....	.....	61	16.1	71	SSE	.....	.....	2	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.	30.56	776.2	76	24.4	26	— 3.3	88	NW	12	5.4	.....	.....	0	.....	.....	0.2	5.	.....	.....	Clear.....	
Gettysburg, Villafranca, France	29.68‡	753.9‡	.....	.....	46	7.8	77	WSW	.....	.....	2–3	.....	10	.....	.....	Blank	Blank	.....	.....	D. clouds.....	
Hartford, Montevideo, Uruguay	29.82	757.4	77	25.0	79	26.1	58	N	13.2	5.9	.....	.....	8	.....	.....	0	0	Smooth	.....	Cloudy.....	
Lackawana, N. 7° 25′, W. 79° 26′	29.74‡	755.4†	.....	.....	81	27.2	78	N	.....	.....	4	.....	0	.....	.....	0	0	Mod'ate	NNE	Clear	
Michigan, Erie, Pa.	30.14†	765.5†	.....	.....	15	— 9.4	82	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Monocacy, Yokohama, Japan *	30.27‡	768.8‡	.....	.....	38	3.3	45	NNW	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.	30.49†	774.4†	.....	.....	32	0.0	69	NNW	10	4.5	.....	.....	2	.....	NNW	.....	.....	.....	.....	Clear.....	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	67	19.4	84	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.47	773.9	39	3.9	28	— 2.2	100	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	20	— 6.7	85	WNW	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Pensacola, Panama	29.87‡	758.7‡	.....	.....	75	23.9	100	NW	1.0	0.4	.....	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Powhatan, Norfolk, Va.	30.36	771.1	27	— 2.8	28	— 2.2	94	NNE	13.5	6.0	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Quinnebang, Norfolk, Va.	30.40‡	772.1‡	.....	.....	30	— 1.1	.....	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Richmond, Brooklyn, N. Y.	30.23‡	767.8‡	.....	.....	24	— 4.4	100	NW	.....	.....	3–4	.....	2	.....	NW	0.4	10.	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas	30.07	763.8	52	11.1	45	7.2	92	SE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	30.34‡	770.6‡	.....	.....	20	— 6.7	.....	NW	.....	.....	5	.....	2	.....	NW	0.91	23.0	.....	.....	Clear.....	
St. Louis, League Island, Pa.	30.16	766.1	58	14.4	25	— 3.9	.....	NW	6	2.7	.....	.....	8	.....	NNW	0.6	15.	.....	.....	Cloudy.....	
Supply, N. 46° 16′, W. 10° 08′	29.60‡	751.8‡	.....	.....	51	10.6	86	W	.....	.....	6	.....	5?	.....	W	.....	.....	Heavy	W	Clear?.....	
Trenton Villafranca, France *	29.49‡	749.0‡	.....	.....	48	8.9	70	WSW	.....	.....	2	.....	10	.....	S;W	0	0	.....	.....	Cloudy	
Tuscarora, N. 8° 50′, W. 84° 36′	29.85‡	758.2‡	.....	.....	80	26.7	78	SSE	.....	.....	1	.....	2cs	.....	.....	0	0	Smooth	.....	Clear.	
Vandalia, N. 37° 33, W. 73° 12′	30.14‡	765.5‡	.....	.....	35	1.7	80	NW	.....	.....	7	.....	10	.....	NW	.....	.....	Heavy	NW	Cloudy	
Wabash, Boston, Mass.	30.02‡	762.5‡	.....	.....	18	— 7.8	.....	NW	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hostpital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the cooperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada, Mazatlan, Mexico		30.23†	767.8†	66	18.9	??	ESE			2		k		Calm	0	Light	wsw	Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.93	760 2				SSE			1–2				ESE					R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			
S. S. Gaelic, Yokohama, Japan		30.07†	763.8†	50	10.0	??	NE			3		8		Var.	0			D. clouds	J.A.Thompson, 2d Off
S. S. Oceanic, Capt. J. Metcalf																			Capt. W. H. Kidley. J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the cooperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 31° 23', W. 77° 04'		30.26	769.1	55.0	12.8	78	NNE			4		5?		NNE	0	3	NNE	Clear?	L. Jahns.
S. S. Leipzig, N. 40° 33' W. 58° 28'		29.46	748.3	65.8	18.8		WSW			10		10		SW		12	wsw	Heavy rain.	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.15*	765.8*	29	— 1.7	100	NNW			5		2		NW	0			Clear	Captain Sargent.
S. S. Ohio, Liverpool		29.64†	752.6†	35	1.7	??	SE			3		8		ESE	Blank			Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 1; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 39° 34', W. 68° 48'		29.77*	756.1*	37	2.8		WNW			8		10cs		WNW	Blank	High; Short; Confused.	WNW	Overcast	Capt. W. Richardson.
S. S. Hibernian,																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

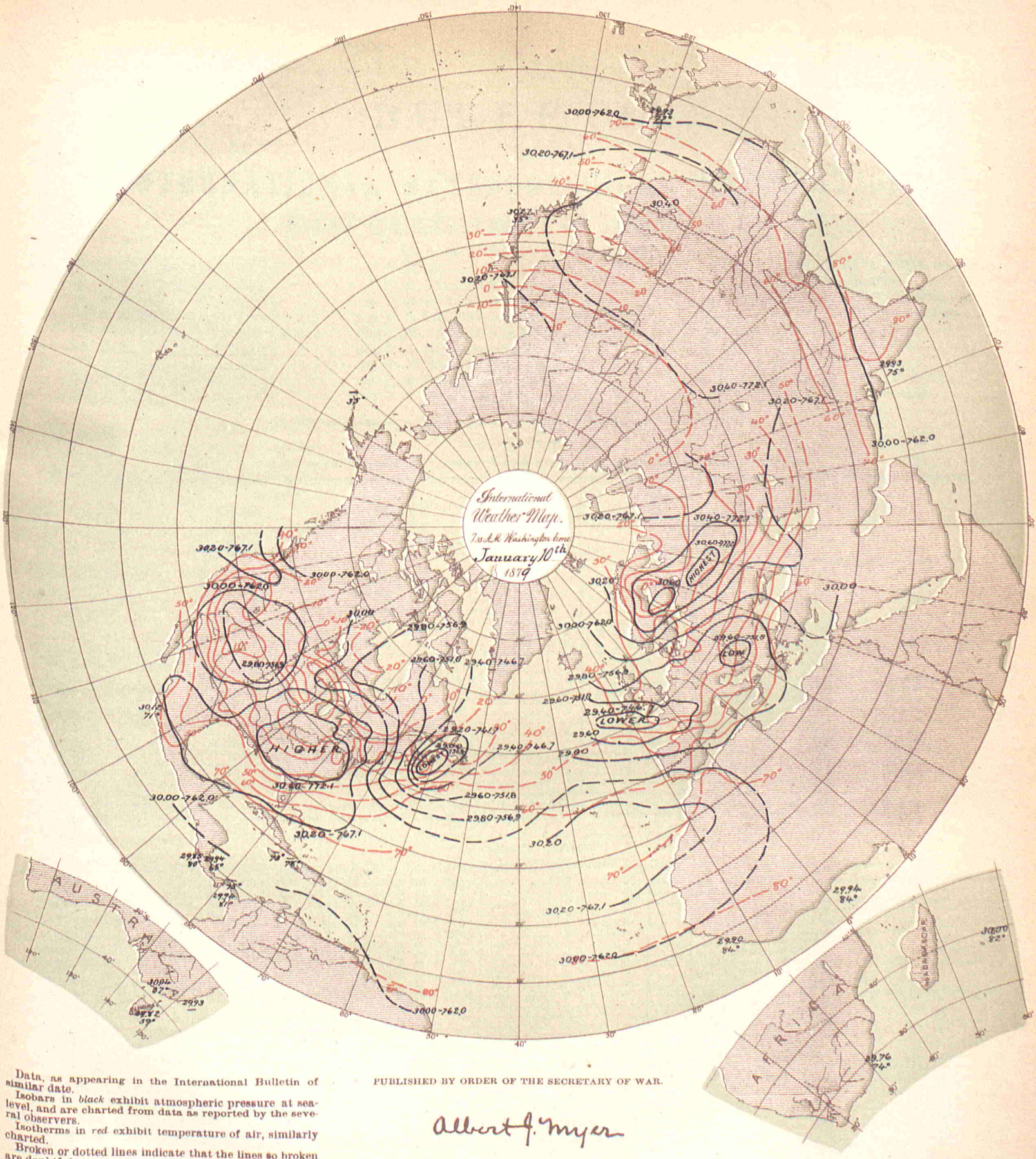
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 11, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Mogador, Marocco			30.32	770.1	61.7	16.5	84	NE			5		5			0	0	Cloudy	
Nemours			30.17	766.3	64.9	18.3	82	WNW			2		5			0	0	Cloudy	Kesxuche.
Algiers			29.90	759.4	61.9	16.6	59	W			3		0			0.213	5.4	Clear	Tourillere.
La Calle			29.85	758.3	60.8	16.0	71	NW			4		8			0.239	6.0	Very cloudy	Foufrede.
Tunis			29.89	759.1	58.8	14.9	76	W			5		8			0.063	1.6	Very cloudy	Jacques.
Sfax			29.96	761.0															Gau.
Saida			30.02	762.5	59.0	15.0	58	W			4		5			0.024	0.6	Cloudy	Herbin.
Tebessa			29.88	758 9	59.7	15.4	39	NNW			7		8			0	0	Very cloudy	Watrin.
Geriville			29.98	761.6	52.9	11.6	65	NNW			5		10			0	0	Covered	Brugniaux.
Laghouat			29.95	760.7	59.7	15.4	47	SE			3		2			0	0	Fair	Bertrand.
Biskra			29.90	759.4	63 9	17.7	47	NW			2		2			0.039	1.0	Fair	Chanvaux.

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.15	740.4	29.72	755.0	31.1	— 0.5	85	Calm			0		10			Inap.	Inap.		Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.97	735.9	29.78	756 3	28.0	— 2.2	94	NE			2		10			0	0		Dr. Wierzbiski
Eperies	28.86	733.1	29.78	756.4	30.7	— 0.7	90	Calm			0		10			0	0		Julius Mikolik.
Gratz	28.45	722.6	29.77	756.2	24.4	— 4.2	79	NE			1		10			0.004	0.1		Andreas Rospini
Hermannstadt	28.31	719.0	29.77	756.1	34.9	1.6	87	SW			1		10			0	0	Foggy	Prof. A. Gottschling.
Kremsmünster	28.31	719.0	29.74	755.3	20.1	— 6.6	89	ENE			2		10			0	0		Prof. C. Wagner.
Lemberg	28.76	730.5	29.78	756.5	31.6	— 0.2	90	S			1		10			0.091	2.3		Dr. T. Stanecki.
Pola	29.60	751.8	29.71	754.7	44.1	6.8	85	NW			2		10			0.154	3.9		I. R. Hydrographic Office.
Szathmar	29.36	745.6	29.84	757.9	32.6	0.3	94	NW			3		10			0 008	0.2		Julius Csics, S. J.
Szegedin	29.48	748.8	29.77	756.2	33.3	0.7	89	SE			2		8			0.039	1.00		Karl Stancel.
Trieste	29.63	752.7	29.74	755.3	41.0	5.0	94	Calm			0		10			0.197	5.0	Raining	P. Busin.
Vienna	29.02	737.1	29.78	756.4	20.8	— 6.2	98	Calm			0		10			0	0		I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:0, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.65	753.1	29.75	755.6	35.4	1.9	.....	E	22	9.8	.....	.....	6	.....	.....	0.090	2.29	Squally.....	W. Boswell.
Ardrossan	29.68	753.9	29.70	754.4	31	— 0.6	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	29.71	754.6	30.6	— 0.8	.....	E	1	0.4	.....	.....	9	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.67	753.6	25.8	— 3.4	.....	WSW	5	2.2	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton	.....	.....	29.65	753.1	27.5	— 2.5	.....	ENE	6.0	2.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.23	742.4	29.63	752.6	28.5	— 1.9	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	29.02	737.1	78	25.6	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Overcast.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.60	751.8	30.0	— 1.1	.....	N	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	H. Todd.
Cardington	.....	.....	29.66	753.4	26.0	— 3.3	.....	NE	.....	.....	1	.....	1	.....	.....	Blank	Blank	D. clouds....	John McLaren.
Chatham, School M. E.	29.45	748.0	29.59	751.6	26.7	— 2.9	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Blue sky....	Lt. W. G. Morris, R.E.
Dartmoor	28.21	716.5	29.74	755.4	27.0	— 2.8	.....	SE	.....	.....	3	.....	9	.....	.....	.....	.....	Snowing.....	Alexander Watt.
Donaghadee	29.67	753.6	29.71	754.6	32	0.0	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	Snowing.....	J. Mac Gowan.
Dover	29.54	750.3	29.57	751.1	28	— 2.2	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	J. Costello.
Falmouth, Observatory	29.38	746.2	29.62	752.3	29.2	— 1.6	.....	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	Snowing.....	The Staff.
Fort Napier, (Natal)	27.38	695.4	29.68	753.9	81.0	27.2	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.65	753.1	29.88	758.9	85	29.4	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.69	754.1	34	1.1	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.01	762.2	30.06	763.5	57.4	14.1	.....	W	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.50	749.3	29.71	754.6	31.8	— 0.4	.....	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	Blue sky....	D. G. Maclean.
Great Yarmouth	29.61	752.1	29.62	752.3	27	— 2.8	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Snowing.....	G. T. Watson.
Greenwich, Royal Obs'y	29.42	747.2	29.60	751.8	25.7	— 3.5	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	The Staff, for G. B. Airy
Guernsey	29.27	743.4	29.50	749.3	32	0.0	.....	NE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Gloomy.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.53	750.0	29.65	753.1	30	— 1.1	.....	NE	.....	.....	2	.....	4ck	.....	.....	0.20	5.1	.....	M. P. Moyle.
Holyhead	29.65	753.1	29.70	754.4	28	— 2.2	.....	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky....	John Tilston.
Jersey	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fisher.
Kew, Observatory	29.57	751.1	29.60	751.8	26.5	— 3.1	.....	NNE	13	5.8	.....	.....	7	.....	.....	.....	.....	Misty.....	The Staff.
Kingstown	29.66	753.4	29.69	754.1	32	0.0	.....	SE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky....	George Mitchell.
Leicester, Museum	29.36	745.7	29.63	752.6	27.0	— 2.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.77	756.1	29.85	758.2	64	17.8	.....	SW	.....	.....	1	.....	8k	.....	.....	.....	.....	Squally.....	Sergt. Beckett, A. H. C.
Naira	29.68	753.9	29.78	756.4	30	— 1.1	.....	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	½ covered...	W. L. Penny.
Nassau, (Bahamas)	.....	.....	30.24	768.1	72.5	22.5	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.44	747.8	29.64	752.8	28.0	— 2.2	.....	N	.....	.....	1	.....	10n	.....	N	.....	.....	Snowing.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.09	738.9	29.64	752.8	26.1	— 3.3	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.60	751.8	27	— 2.8	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	H. E. Bellamy.
Plymouth	29.52	749.8	29.60	751.8	29.7	— 1.3	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	John Merrifield.
Roche's Point	29.63	752.6	29.67	753.6	33	0.6	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Blue sky.....	W. Kennedy.
Saint Ann's Head	29.49	749.0	29.66	753.4	27	— 2.8	.....	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	¾ covered....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.84	757.9	32.1	0.1	.....	E	19	8.5	.....	.....	10	.....	.....	.....	.....	Blue sky.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.84	757.9	56.5	13.6	.....	SSE	.....	.....	2	.....	6	.....	.....	.....	.....	Rain & snow	Sergt. W. H. Lyne.
Sheffield	29.39	746.5	29.68	753.9	29.1	— 1.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	D. clouds.....	W. F. Cooper.
Silloth Rectory	29.66	753.4	29.69	754.1	26.2	— 3.2	82	Calm	.....	.....	0	.....	4	.....	.....	0.05	1.3	Snowing.....	F. H. Redford.
Stonyhurst Observatory	29.26	743.2	29.66	753.4	28.0	— 2.2	.....	NE?	.....	.....	0?	.....	10	.....	.....	0.025	0.64	D. clouds.....	Rev. S. J. Perry.
Stratfield Turgiss	29.38	746.2	29.61	752.1	25.5	— 3.6	.....	NE	.....	.....	0–)	.....	7	.....	.....	.....	.....	Gloomy.....	
Thurso	29.76	755.9	29.82	757.4	35	1.7	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	Rev. C. H. Grahame, F.M.S.
Truro, Royal Institution	.....	.....	29.69	754.1	31	— 0.6	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	Showery	John Trotter.
Valencia, Observatory	29.63	752.6	29.65	753.1	37.9	3.3	.....	SE	8	3.6	.....	.....	10	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Sub-Series.																		Misty.....	The Staff.
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	57.0	13.9	94	SW	.....	.....	3	.....	5k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.73	755.1	31.9	— 0.1	.....	E	.....	.....	1	.....	9k	.....	.....	0.22	5.6	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.79	756.7	29.98	761.4	81.2	27.3	71	SE	12.5	5.6	.....	1	4	ESE	.....	0.01	0.3	Fine.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	57.0	13.9	66	SW	20	8.9	.....	.....	4	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.77	756.1	38	3.3	.....	SE	.....	.....	4	0	0	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES.

Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.20	665.5	29.92	760.0	66.2	19.0	76	E	.....	.....	5	.....	2ks	.....	.....	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.61	752.0	29.65	753.2	24.4	— 4.2	84	SSE	.....	.....	4	.....	2	.....	.....	.....	.....	.....	.....
Fanöe	29.59	751.6	29.61	752.0	27.9	— 2.3	96	E	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkishólm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	29.43	747.6	29.60	751.5	25.0	— 3.9	96	NE	.....	.....	7	.....	10	.....	.....	.....	.....	Snowing.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	28.93	734.8	29.48	748.8	34.2	1.2	92	SSW	.....	.....	1	.....	10	.....	.....	0.098	2.5	Covered	Collignon, Director.
Amiens, Normal School	29.39	746.4	29.50	749.3	26.6	— 3.0	93	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.62	752.4	29.70	754.4	39.2	4	67	N	.....	.....	1	.....	0	.....	.....	0.020	0.5	Very clear...	M. Giraud, Director.
Bar-sur-Seine	28.95	735.4	29.53	750.0	39.7	4.3	87	S	.....	.....	1	.....	8kn	W	SW	0	0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.24	742.8	29.54	750.4	25.3	— 3.7	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.81	731.7	29.71	754.6	38.3	3.5	90	W	.....	.....	6	.....	10	.....	.....	0	0	Covered.....	A. Carre, Director.
Bourg-en-Bresse, N. School	28.81	731.7	29.70	754.3	43.3	6.3	73	S	.....	.....	3	.....	5cn	W	W	0.378	9.6	Cloudy.....	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.18	741.2	29.43	747.4	36.3	2.4	82	NE	.....	.....	3	.....	10	.....	NE	0.246	6.25	Snowing.....	M. de Rermaur, Director.
Carcassonne, Normal School	29.18	741.1	29.59	751.6	50.4	10.2	64	E	.....	.....	2	.....	5	NW	NW	0	0	Cloudy.....	September, Director.
Caen, Normal School	29.39	746.4	29.48	748.3	27.0	— 2.8	82	ESE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	28.66	733.0	29.45	748.0	29.5	— 1.4	89	SSE	.....	.....	1	.....	10	.....	E	0.	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.16	740.6	29.49	749.0	28.4	— 2.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Covered.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.24	717.4	29.60	751.8	48.0	8.9	61	S	.....	.....	1	.....	5	.....	SW	0.209	5.3	Cloudy.....	Alluard, Director.
Commercy, Normal School	28.71	729.1	29.59	751.5	27.9	— 2.3	96	SE	.....	.....	1	.....	10n	.....	SE	.....	.....	Light snow.	Dr. Coulet, Director.
Commune de Gréasque*	28.58	725.8	29.72	754.8	46.9	8.3	67	N	.....	.....	1	.....	2	.....	SW	0.016	0.4	¾ covered...	M. King, Director.
Grenoble, Normal School	28.92	734.5	29.71	754.7	36.0	2.2	.....	NE	.....	.....	1	5c	.....	.....	.....	0	0	Cloudy.....	M. Ablard, Director.
La Rochelle-sur-Yon, N. School	29.28	743.6	29.49	749.1	44.6	7.0	91	W	.....	.....	1	.....	8	.....	W	0.35	9.	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.17	741.0	29.48	748.9	38.3	3.5	97	WSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.69	728.8	29.63	752.5	42.3	5.7	70	S	.....	.....	2	.....	10	.....	.....	0.795	20.20	Covered	Baudry, Director.
Lorient, Naval Observatory	29.39	746.5	29.49	749.0	36.7	2.6	96	NE	.....	.....	2	.....	.....	.....	NE	0.409	10.4	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.48	723.3	29.54	750.3	35.8	2.1	87	NNW	.....	.....	3	.....	k	.....	NNW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.49	749.0	29.69	754.2	46.4	8	64	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.75	628.6	.....	.....	28.8	— 1.8	100	SW	.....	.....	3	.....	.....	.....	.....	0.764	19.4	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.50	749.2	29.53	750.0	48.6	9.2	92	WSW	.....	.....	1	.....	8	WSW	WSW	0.16	4.	¾ covered ..	Lt. Decante, Director.
Rouen, Normal School	29.41	747.0	29.50	749.2	27.0	— 2.8	74	NE	.....	.....	1	.....	10	.....	.....	0.087	2.2	Covered.....	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.46	748.2	29.48	748.9	30.9	— 0.6	96	NE	.....	.....	2	.....	8	NE	NE	0.115	2.92	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.33	741.9	29.49	749.1	27.0	— 2.8	95	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	E. Renou, Director.
Tarbes, Normal School	28.46	722.9	29.56	750.8	46.4	8	72	W	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	28.94	735.0	29.75	755.6	42.8	6	93	SE	.....	.....	2	.....	5	.....	S	0.177	4.5	Cloudy.....	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.6	30.01	762.3	74.1	23.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.67	753.6	43.7	6.5	72	SSW	.....	.....	1	.....	2	.....	.....	0.035	0.9	Blue sky	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.48	621.7	29.79	756.7	32.9	0.5	78	SW	16.8	7.5	.....	.....	4	.....	W	0	0	.....	M. Cave.
Nice	.....	.....	29.72	754.9	48.2	9.0	76	E	.....	.....	3	.....	8	.....	.....	0	0	¾ covered...	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.21	741.9	.....	.....	25.3	— 3.7	98	NE	.....	.....	1	.....	10	.....	.....	0.075	1.9	Foggy.....	Marié Davy, Director
Perpignan	29.54	750.3	29.65	753.0	52.7	11.5	72	SE	3.8	1.7	.....	.....	5	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade) H. P.	22.06	560.2	.....	.....	21.7	— 5.7	.....	W	.....	.....	2	.....	10	.....	.....	0.035	0.9	Snowy.....	Gen'l de Nansouty.
Toulouse, Observatory	28.93	734.9	29.65	753.0	48.2	9.0	73	SE	.....	.....	2	.....	7	.....	.....	0.177	4.5	.....	M. Mercadier Julier.
Tours	29.30	744.1	29.49	749.1	23.7	— 4.6	.....	SW	.....	.....	1	.....	10	.....	W	0.043	1.1	.....	C. Marquet.
Versailles Observatory	.....	.....	29.48	748.7	25.5	— 3.6	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Light fog....	Dr. A. Bernay, Director.
Zi-Ka-Wei, (near Shanghai)	30.47	773.9	30.49	774.5	32.4	0.2	80	WNW	2.2	1.0	.....	.....	0	.....	.....	0	0	Clear.....	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published. at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters or 1,272.9 feet Commune de Gréasque, 342 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–7	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.80	731.4	29.63	752.6	23.4	— 4.8	95	E	.....	.....	3	.....	7	E	....	0.012	0.3	Snowing.....	Prof. Dr. Hoh.
Berlin	29.71	754 7	29.90	759.4	18.3	— 7.6	76	SE	.....	.....	1	.....	4	.....	.....	0.134	3.4	.....	Prof. Arndt.
Breslau	29.22	742.1	29.74	755.4	16.7	— 8.5	86	SE	.....	.....	2	.....	6	.....	.....	0.065	1.65	.....	Royal University Obs'y
Carlsruhe	29.17	740.8	29.61	752 1	23.4	— 4.8	92	NE	.....	.....	1	.....	10	SW	.....	0.138	3.5	Snowing.....	Albert Senz.
Cassel	29.02	737 0	29.61	752.2	10.8	—11.8	84	NE	.....	.....	2	.....	5	NE	....	0	0	.....	Dr. H. Möhl.
Crefeld	29.41	747.1	29.58	751.2	20.5	— 6.4	74	NE	.....	.....	1	.....	7	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	20.7	— 6.3	74	W	.....	.....	1	.....	8	.....	.....	0.087	2.2	.....	Prof. Prestel.
Frankfort on the Main	29.27	743 4	29.64	752.9	20.7	— 6.3	.....	E	.....	.....	2	.....	5	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.18	715.8	29.65	753.1	35.6	2.0	72	SSW	.....	.....	1	.....	4	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.57	751.1	29.65	753.0	12.2	—11.0	97	SE	.....	.....	1	.....	8cs	.....	.....	0.067	1.7	.....	Captain F. Hegemann
Kiel	29.72	754.8	29.73	755.2	15.6	— 9.1	89	S	.....	.....	2	.....	7	.....	.....	0.060	1.52	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.81	757.1	29.89	759.3	24.3	— 4.3	88	E	.....	.....	4	.....	10	.....	.....	0.067	1.7	Snowing.....	Prof. E Luther.
Köslin	.....	.....	29.76	755.9	13 5	—10.3	.....	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.25	742.9	29.69	754.2	18 3	— 7.6	89	NE	.....	.....	1	.....	7	.....	.....	0.122	3.1	.....	Prof. Bruhns, Privy Councellor.
Memel, Naval School	29.90	759.5	29.95	760.7	21.4	— 5.9	85	ESE	.....	.....	3	.....	10cs;ks	.....	.....	.....	.....	Squally.....	Skalweit.
Neufahrwasser	29.87	758.6	29.88	759.0	21.2	— 6.0	79	S	.....	.....	2	.....	10	.....	.....	0.110	2.8	.....	A. Lothes.
Posen	29.53	750.0	29.84	758.0	14.7	— 9.6	81	E	.....	.....	4	.....	9	.....	.....	0.291	7.4	Snowing.....	Dr. Magener.
Strassburg (in Alsace)	29.06	738.0	29.64	752.8	24.6	— 4.1	88	ENE	.....	.....	1	.....	10	.....	.....	0.039	1.00	.....	Imp. University Observatory.
Stuttgart	29.63	727.2	29.62	752.3	23.9	— 4.5	88	N	.....	.....	1	.....	10	.....	.....	0.075	1.9	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.09	713.5	29.68	753.8	25.3	— 3.7	87	Calm	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	Dr. Van Bebber.
Wustrow, Naval School	29.65	753.2	29.68	753.8	28.6	— 1.9	100	SE	.....	.....	1	.....	5s	.....	.....	0.020	0.5	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.50	749.3	29.89	759.3	59.2	15.1	.....	SW	.....	.....	1.5	.....	.....	....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	761.9	30.05	763.2	75.3	24.1	38	WSW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.52	749.7	30.00	762 0	76.0	24.4	37	S	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.94	761.5	29.98	761.5	75.1	23.9	69	WNW	9.0	4.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.96	710.2	29.97	761.2	80.0	26.7	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.37	746.0	30.15	765.7	62.6	17.0	38	W	0.6	0.3	.....	.....	3	.....	.....	0	0	Blue sky.....	
Belgaum	27.41	696.2	29.95	760.7	76.7	24.8	55	Calm	0	0	.....	.....	1	.....	.....	0	0	Blue sky.....	
Roorkee	29.18	741.2	30.12	765.1	61.8	16.6	46	S	1.0	0.4	.....	.....	8	.....	.....	0	0	D clouds.....	
Agra	29.54	750.4	30.14	765.5	57.8	14.3	81	E	.....	.....	.....	.....	10	.....	E	0	0	Gloomy	
Nagpur	28.97	735.8	30.03	762.6	75.9	24.4	51	Calm	3.1	1.4	.....	.....	2	.....	SE	0	0	D. clouds.....	
Lucknow	29.73	755.1	30.11	764.9	68.1	20.1	42	N	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.80	757.0	30.13	765.2	63.0	17.2	70	Calm	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.93	760.3	30.12	765.1	67.4	19.7	71	Calm	0.1	0.04	.....	.....	2	NE	NE	0	0	.....	
Hazaribagh	28.03	711.9	30.11	764.8	64.3	17.9	51	NE	5.4	2.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.98	761.4	30.06	763 5	73.5	23.1	63	NE	1.1	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	30.06	763.4	30.08	764.0	69.7	20.9	77	NE	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	68.6	20.3	67	SE	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.96	761.0	30.05	763.4	71.1	21.7	73	Calm	4.8	2.2	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.81	757.2	30.16	766 1	62.9	17.2	81	NE	0 6	0.3	.....	.....	0	.....	.....	0	0	Blue sky	
Jubbulpore	28.66	727.8	30.04	763.1	74.8	23.8	42	NE	2.9	1.3	.....	.....	4	NE	.....	0	0	D. clouds.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.4 feet, or 606.3 meters: Nagpur, 1,025 ft., or 312m., Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.31	744.4	29.74	755.3	36.7	2.6	73	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.63	752.7	29.75	755 6	34.3	1.3	78	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.21	742.0	29.75	755.7	32.5	0.3	83	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.84	732.4	29.79	756.6	34.9	1.6	72	ENE	1.8	0.8	.....	.....	4	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.79	705.8	29.78	756.3	29.7	— 1.3	64	WNW	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.52	749.8	29.72	754.8	39.4	4.1	61	N	3.8	1.7	.....	.....	10	S	.....	0.012	0.3	.....	Prof. G. M. Garibaldi.
Florence	29.46	748 3	29.73	755.1	44.4	6.9	92	NW	.....	.....	2	.....	10	SW	.....	0.134	3.4	.....	Cav. F Menca
Leghorn	29.59	751.6	29.68	753.9	46.4	8.0	54	ENE	2.5	1.1	.....	.....	10	.....	.....	0.122	3.1	.....	Prof. Pietro Monte.
Pesaro	29.72	754.8	29.77	756.1	35.6	2.0	86	N	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.58	751.2	29.76	755 8	52.9	11.6	58	S	3.1	1.4	.....	.....	10	.....	.....	0.276	7.0	.....	Prof. P S. Ferrari.
Lecce	29.57	751.1	29.83	757.7	54.1	12.3	67	WNW	4.9	2.2	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.56	750.7	29.75	755.7	48.7	9.3	86	NW	.....	.....	2	.....	9	.....	.....	0.535	13.6	.....	Prof. A. Pacinotti.
Cosenza	28.93	734.7	29 83	757.6	54.7	12.6	77	SW	1.3	0.6	.....	.....	8	.....	.....	0.043	1.1	.....	Prof. D. Conti.
Palermo	29.59	751.6	29.85	758.1	58.5	14.7	58	SW	7.4	3.3	.....	.....	10	SW	.....	0.055	1.4	.....	Prof. G. Cacciatore.
Syracuse	29.78	756.3	29.85	758.1	60.3	15.7	61	SW	8.7	3.9	.....	.....	10	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.25	743.0	29.81	757.1	54.7	12.6	77	WNW	4.3	1.9	.....	.....	6	.....	.....	0.339	8.6	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.19	766.8	30.21	767.3	40.4	4.7	86	NE	1.9	0.8	.....	.....	10cks;8cs	.....	.....	0	0	Cloudy.....	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.09	764 3	30.30	769.6	37.2	2.9	89	N	1.1	0.5	.....	.....	9ks	.....	W	0.030	0.76	Cloudy.....	S. Takehayashi.
Tokei (Yeddo) Observatory	30.17	766.3	30.25	768.3	34.8	1.6	73	NNE	4.4	2.0	.....	.....	10s	.....	SW	0.080	2 03	Cloudy.....	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9.30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.8	30.36	771.1	42.4	5.8	57	SW	.....	.....	1	2cs	0	.....	.....	0	0	Clear.....	Prof. L. Perez.
Leon	24.51	622.6	30.18	766.7	53.9	12.2	77	SW	.....	.....	1	10c	0	NW	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.5	30.31	769.8	45.0	7.2	71	Calm	0	0	.....	2c	0	SW	.....	0	0	Fine.....	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	47.8	8.8	68	ENE	.....	.....	1	4cs	0	SW	.....	0	0	Clear.....	M. V. de Leon, M. E
Tlacotalpam	30.03	762.7	30.04	763.0	63	17.2	94	SE	.....	.....	1	0	0	.....	.....	0	0	Misty.....	M. M. Cházaro.
San Luis Potosi	24.23	615.4	30.23	767 8	53.0	11.7	40	SW	.....	.....	.....	5	0	W	.....	0	0	½ cloudy....	G. Barroeta, M. D.
Vera-Cruz	30.04	763 1	30.07	763.8	63 5	17.5	84	SW	0	0	.....	3c	2s	.....	.....	0	0	½ cloudy....	Prof. J. Rossell.
Zacatecas	22 59	573.9	.....	.....	50.0	10.	75	SW	.....	.....	2	4	0	S	.....	0	0	Clear.....	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute	23.43	595.0	30.20	767.0	41.0	5.0	56	NNE	0.4	0.2	.....	.....	.....	.....	.....	0	0	Clear.....	Pr a. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.5	30.08	764.1	70.7	21.5	69	ENE	.....	.....	1	.....	5	.....	.....	0	0	½ clouded	R. Landa, C. E.
San Juan E. Michapam	29.98	761 5	30.11	764.9	68	20	.....	Calm	.....	.....	0	7n	3n	.....	.....	0	0	Misty.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,560.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.60	751.8	29.60	751.8	23.7	— 4.6	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.59	751.6	29.59	751.6	22.6	— 5.2	.....	S	.....	.....	1	.....	.....	.....	.....	0.079	2.0	.....	
Helievoetsluis	29.60	751.8	29.60	751.8	21.9	— 5.6	100	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.57	751.0	29.61	752.2	21.0	— 6.1	74	ENE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Helievoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer corrected for instrumental error and temperature. Inches.	Barometer corrected for instrumental error and temperature. Millimeters.	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.86	758.5	29.92	759.9	32 0	0.0	21	ENE	17.2	7.7	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.24	768.1	30.28	769.1	29.8	— 1.2	61	E	4	2	.....	.....	1	.....	.....	0	0	.....	
Christiania	29.89	759.1	30.04	763.1	18.1	— 7.7	69	NNE	9	4	.....	.....	10	.....	.....	0	0	.....	
Tromsö	30.28	769.0	30.32	770.1	27.3	— 2.6	87	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.06	763.5	30.25	768.4	58.3	14.6	89	W	9.8	4.4	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.87	733.3	29.89	759.3	52.5	11.4	71	WNW	16.1	7.2	.....	.....	7	WNW	.....	0.205	5.2	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.22	767.6	30.31	769.8	66 2	19.0	60	SW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.61	752.1	29.97	761.3	56.3	13.5	65	WNW	19.9	8.9	.....	.....	9	WNW	.....	0.287	7.3	.....	The Staff.
Ponta Delgada, (Azores)	30.23	767.8	30.30	769.6	63.0	17.2	76	WSW	9.8	4.4	.....	.....	4	.....	.....	0.075	1.9	.....	

NOTE.—The originals give the wind-velocity in kilometers for the four preceding the observations; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h., 6 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'r
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	V. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	30.08	764.1	77.5	25.3	.....	NE	.....	.....	3	.....	2	.....	NE	3	SE	D. clouds.	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. T. d'Oliveria, Com'd'
Quanza, N. 6° 16', E. 1° 58'	.....	.....	29.92	760.0	84.2	29.0	.....	SW	.....	.....	2	.....	3	.....	W	2	SW	D. clouds.	V. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loando	.....	.....	29.84	757.8	84.2	29	.....	N	.....	.....	2	.....	9	.....	Calm	0	.....	D. clouds.	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Hong-Kong, China	.....	.....	30.32	770.0	60.8	16 0	.....	NE	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.40	746 7	29.84	758.0	26.6	— 3.0	83	E	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.55	750.6	30.00	762.1	19.4	— 7.0	85	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	30.05	763.2	30.32	770.0	11.7	—11.3	75	E	11	5	.....	.....	2ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.45	773.5	30.47	773.9	11.1	—11.6	100	ENE	7	3	.....	.....	3s	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.17	740.8	29.84	757.9	25.0	— 3.9	100	NNE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.76	755.9	29.83	757 7	43.3	6.3	75	S	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.88	759.0	29.90	759.5	46.8	8.2	93	SSE	2	1	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.92	760.0	30.55	776.0	— 2.6	—19.2	94	NNW	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.91	759.7	30.13	765.3	25.9	— 3.4	82	ESE	17	8	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.27	768.8	30.29	769.3	15.4	— 9.2	91	WSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.89	733.8	30.37	771.4	39.0	3.9	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	30.55	775.9	30.47	773.8	20.5	— 6.4	69	ESE	7	3	.....	.....	7ks;s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.02	762.6	30.56	776.1	5.7	—14.6	76	SW	2	1	.....	.....	2s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.24	768.1	30.54	775.8	5.9	—14.5	87	W	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.19	741.3	30.24	768.1	10.6	—17.9	80	W	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.87	758.7	30.12	765 0	25.9	— 3.4	74	WNW	13	6	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.64	727.4	30.42	772.6	41.0	5.0	83	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.58	751.4	30.20	767.0	—18.9	—28.3	89	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.67	753.5	29.99	761.7	0.7	—17.4	84	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.17	766.4	30.32	770.0	29.1	— 1.6	42	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.53	757.6	29.91	759.8	— 9.8	—23.2	50	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.61	752.1	29.72	754.8	53.8	12.1	55	WSW	2.2	1.00	.....	.....	2k	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.56	750.8	29.62	752.3	51.4	10.8	64	SW	3.8	1.70	.....	.....	10	.....	.....	0.008	0.2	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.67	677.5	.....	.....	35.1	1.7	93	NW	13.6	6.08	.....	.....	10	.....	.....	0.177	4.5	Covered	Domingo Martin y Perez.
Madrid, Royal Observatory	27.48	698.1	.....	.....	43.7	6.5	97	SW	13.8	6.13	.....	.....	7	.....	.....	0.079	2.0	Very cloudy	The Staff.
Murcia, Met. Obs'y	29.69	754.0	29.84	757.9	55.4	13.0	72	SW	3.7	1.67	.....	5	5	SE	.....	0.052	1.33	Raining	Blayo Diaz, Director.
Santiago, Met. Obs'y.	28.72	729.5	29.62	752.4	49.5	9.7	81	W	17.4	7.8	.....	.....	7	.....	.....	0.780	19.8	Cloudy	L. Gil Villanueva, Dir.
SUB-SERIES																			
Havana, Cuba, W. I.	30.13	765.3	30.20	767.0	70.9	21.6	88	E	12.5	5.6	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.89	759.3	29.94	760.6	77.9	25.4	91	NNE	1.8	0.8	.....	2	2	E	E	0.61	15.3	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.93	760.3	30.03	762.8	57.9	14.4	85	W	41.0	18.3	.....	0	10	.....	W	0.120	3.0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.01	762.2	30.10	764.5	77.0	25.0	84	E	8.8	3.92	.....	4k	3kn	E	E	0.157	4.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	30.48	774.1	29.52	775.1	9.7	—12.4	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy	
Umea	30.40	772.1	30.45	773.6	18.0	— 7.8	94	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.35	770.8	30.40	772.1	7.5	—13.6	100	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	29.83	757 7	30.01	762.2	27.7	— 2.4	92	NE	.....	.....	7	.....	10	.....	.....	0	0	.....	
Wisby	29.85	758.2	29.91	759.7	24.8	— 4.0	95	ESE	.....	.....	6	.....	10	.....	.....	0.024	0.6	Snowing.....	
Sub-Series.																			
Upsala	30.00	762.0	30.08	763.9	24.3	— 4.3	72	E	14.3	6.4	.....	.....	6	S	E	0.061	1.62	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.21	716.6	29.66	753.4	46.4	8.0	58	SW	.....	.....	4	.....	6	.....	.....	0.169	4.3	Cloudy.....	The Observatory.
Zurich	27.99	711.0	29.69	754.2	36.0	2.2	81	SE	.....	.....	.....	.....	7	.....	.....	0	0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —11.1 mm.; Thermometer, +6.6 cent.; Relative Humidity, —21 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	757.9	57.2	14.0	71	SW	12	5.5	.....	.....	5	.....	SW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....
Valona	.....	.....	29.83	757.6	58.1	14.5	.....	SE	.....	.....	1	.....	5	.....	.....	0.47	12.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.87	758.7	29.99	761.7	68.0	20.0	40	N	.....	.....	1	.....	1c	.....	.....	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	30.10	764.5	30.17	766.3	7.7	—13.5	86	S	0	0	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.95	760.7	30.28	769.1	19	— 7.2	.....	SW	4	1.8	.....	.....	10n	.. ..	SW	0.20	5.1	Light snow..	W. R. Bigg.
*Chatham, N. B	30.13	765.3	30.20	767.1	— 7	—21.7	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	30.09	764.3	30.14	765.5	7	—13.9	91	W	8	3.6	.....	0	0	.....	.....	0.350	8.89	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.03	762.8	30.23	767.8	18.0	— 7.8	95	W	.....	.....	3	.....	10n	.....	.....	0.03	0.8	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.41*	10.4*	.....	W. H. Bevis.
*Father Point, Quebec	30.10	764.5	30.13	765.3	9	—12.8	65	S	10	4.5	.....	.....	10n	.....	Calm	.....	.....	Light snow..	J. McWilliams.
Fredericton, N. B	30.22	767.6	30.29	769.4	—10.4	—23.6	100	S	1	0.4	.....	0	8	.....	.....	0	0	Fine.....	Prof. Harrison.
*Fort Garry Manitoba	29.18	741.2	30.10	764.5	2	—16.7	100	S	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy.....	James Stewart.
Granton, Ontario	29.10	739.1	30.31	769.9	12	—11.1	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Overcast.....	James Grant.
*Halifax, N. S	30.05	763.3	30.20	767.1	8	—13.3	91	W	4	1.8	.....	0	0	.....	.....	0.050	1.27	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.93	760.2	30.33	770.4	18.7	— 7.4	89	SW	....	.....	2	4cs	0	SW	.....	0	0	Fair.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.48	748.8	29.50	749.3	21	— 6.1	100	NW	....	.....	7	.....	10	.....	.....	0.26	6.6	Snow-squalls	E. Weedon.
*Kingston, Ontario	29.95	760.7	30.31	769.9	20	— 6.7	93	W	8	3.6	.....	.....	10n	.....	Calm	0.08	2.0	Light snow..	S. Woods, M. A.
Little Glace Bay, N. S	29.94	760.5	29.98	761.5	19.6	— 6.9	94	NW	12	5.4	.....	6k	0	NW	.....	0.10	2.5	Fair	C. H. Rigby.
Moose Factory, Ontario	30.07	763 8	30.11	764.8	— 3.7	—19.8	89	W	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	J. R. Nason.
*Montreal, Quebec	30.01	762.2	30.22	767.6	18	— 7.8	84	W	17	7.6	.....	.....	10n	.....	.....	0.10	2.5	Light snow..	C. H. McLeod, C. E
*Parry Sound, Ontario	29.49	749.0	30.23	767.8	21	— 6.1	93	N	2	0.9	.....	.....	10n	.....	SW	0.25	6.3	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.48	748.8	30.30	769.6	12.2	—11.0	65	Calm	.....	.....	.....	.....	10n	.....	.....	.....	.....	Snowing.. ..	J. F. Jeffers, B. A.
Port Dover, Ontario	29.59	751.6	30.34	770.6	17	— 8.3	83	SW	13	5.8	.....	.....	Haze	.....	.....	0	0	Clouay.....	H. Morgan.
Port Hastings, N. S	30.02	762.5	30.08	764.0	11.9	—11.2	.....	NW	15	6.7	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.64	752.8	30.34	770.6	20	6.7	85	SW	.....	.....	.....	.....	10n	.....	W	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.87	758.7	30.23	767.8	1	—17.2	100	Calm	.....	.....	0	Haze	Fog	.....	.....	0	0	Dense fog...	Capt. Ashe, R. N
*Rockliffe, Ontario	29.69	754.1	30.19	766.8	14	—10.0	82	Calm	0	0	....	.....	10s	.....	NW	Inap.	Inap.	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.21	767.3	30.27	768.8	6	—14.4	85	NW	.....	.....	1	5k	5ks	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	30.12	765.0	30.31	769.9	5	—15.0	100	W	3	1.3	.....	0	7k	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.47	748.5	30.23	767.8	24	— 4.4	89	SW	8	3.6	.....	.....	10s	.....	.....	0.23	5.8	Light snow..	K. Stewart.
Stayner, Ontario	29.42	747.2	30.26	768.6	18	— 7.8	83	W	6	2.7	.....	.....	10n	.....	W	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.88	733.5	30.28	769.1	12.8	—10.7	90	Calm	0	0	....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M.A
*Sydney, C. B	29.95	760.7	29.99	761.7	18	— 7.8	77	W	4	1.8	.....	0	8ks	.....	NW	0.08	2.0	Fair	T. C. Hill.
*Toronto, Ontario	29.90	759.4	30.32	770.1	17	— 8.3	86	SW	7	3.1	.....	.....	10n	.....	Calm	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	30.16	766.1	30.26	768.6	15.5	— 9.2	91	N	3	1.3	.....	8k	0	Calm	.....	0.20	5.1	Cloudy.....	Prof. John E Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	20.0	— 6 7	100	SW	.....	.....	.....	5	5n	.....	.....	0.24	6.1	Stormy.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.8, *Rain-fall for 48 hours.

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	Cloud. Amount. Upper. 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Albany, New York	30.14	765.5	30.39	771.9	11	-11.7	80	S	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Alpena, Michigan	29.53	750.0	30.23	767.8	20	— 6.	70	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Atlanta, Georgia	29.19	741.4	30.40	772.1	35	1.	52	E	14	6.3	.....	.....	10s	.....	SE	0	0	Cloudy	
Atlantic City, New Jersey	30.47	773.9	30.48	774.2	26	— 3.	75	W	4	1.8	.....	5cs	2s	W	W	0	0	Cloudy	
Augusta, Georgia	30.3	769.6	30.49	774.4	36	2.	70	Calm	0	0	.....	2cs	2ks	Calm	S	0	0	Fair	
Baltimore, Maryland	30.43	772.9	30.48	774.2	26	— 3.	75	W	3	1.3	.....	5ck	2s	W	Calm	0	0	Fair	
Barnegat, New Jersey	30.46	773.7	30.49	774.4	20	— 6.	70	W	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.06	712.7	29 91	759.7	1	—17.	100	SE	2	0.9	.....	0.	0	.....	.....	0	0	Clear	
Boerne, Texas	28.56	725.4	29.88	758.9	51	10.	93	N	1	0.4	.....	.....	10s	.....	NW	0.38	9.7	Cloudy	
Boise City, Idaho	26.98	685.3	29.94	760.5	38	3.	71	S	18	8 0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.22	767.6	30.38	771.6	16	— 8.	66	SW	11	4.9	.....	5cs	5s;hz	Calm	Calm	0	0	Cloudy	
Brackettville, Texas	29.00	736.6	30.04	763.0	51	10.	46	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.06	738.1	30.18	766.6	— 5	—20.	100	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.85	758.2	29.92	760 0	61	16.	91	S	12	5.4	.....	2cs	0	Calm	.....	Inap.	Inap	Clear	
Buffalo, New York	29.58	751.3	30.34	770.6	16	— 8.	83	SW	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	24	— 4.4	36	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.99	761.7	30.30	769.6	16	— 8.9	66	S	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Cairo, Illinois	29.94	760.5	30.36	771.1	31	— 0.6	89	Calm	0	0	.....	.....	10n	.....	Calm	0.03	0.8	Heavy snow	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.27	641.8	30.07	763.8	26	— 3.3	88	NE	8	3.6	.....	0	0	.....	.....	0.04	1.0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	18	— 7.8	37	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camro, California	27.61	701.3	30.18	766.6	21	— 6.1	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolin	30.52	775.2	30.53	775.4	38	3.3	72	NE	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair	
Cape Henry, Virginia	30.49	774.4	30.51	774.9	27	— 2.8	53	W	5	2.2	.....	5c	0	Calm	.....	0	0	Fair	
Cape Lookout, N. Carolin	30.51	774.9	30.53	775.4	34	1.1	79	N	15	6.7	.....	.....	10s	.....	E	0	0	Cloudy	
Cape May, New Jersey	30.46	773.7	30.49	774.4	29	— 1.7	89	S	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Castroville, Texas	29.25	742.9	29.97	761.2	52	11.1	86	W	4	1.8	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Charleston, South Carolin	30.42	772.6	30.49	774.4	38	3.3	81	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	23.93	607.8	29.87	758.7	13	—10.6	62	SW	12	5.4	.....	0	0	.....	.....	Inap	Inap	Clear	
Chicago, Illinois	29.48	748.8	30.22	767.6	22	— 5.6	86	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Cincinnati, Ohio	29.67	753 6	30.38	771.6	21	— 6.1	78	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Threatening	
Cleveland, Ohio	29.56	750.8	30.35	770.9	15	— 9.4	82	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.24	717.3	29 98	765.5	34	1.1	100	NW	4	1.8	.....	.....	10n	.....	SE	0.11	2.8	Light rain	
Columbus, Ohio	29.35	745.5	30.26	768.6	17	— 8.3	67	SE	3	1.3	.....	.....	10s;fg	.....	Calm	0	0	Foggy	
Corpus, Texas	28.13	714.5	29 87	758 7	37	2.8	100	W	8	3.6	.....	.....	10s	.....	W	Inap	Inap.	Cloudy	
Corsicana, Texas	29.56	750.8	30.06	763.5	35	1.7	90	NW	7	3.1	.....	.....	10n	.....	Calm	0.31	7.9	Light rain	
Davenport, Iowa	29.51	750.3	30.23	767.8	20	— 6.7	85	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.16	639.0	.....	.....	16	— 8.9	83	SW	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Decatur, Texas	28.90	734.0	30.14	765.5	32	0 0	89	NE	9	4.0	.....	.....	10s	.....	NE	0	0	Cloudy	
Denison, Texas	29.27	743.4	30.10	764.5	32	0.0	89	Calm	0	0	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Denver, Colorado	24.73	628.1	29.95	760.7	6	—14.4	52	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.27	743.4	30.22	767.6	20	— 6.7	85	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Detroit, Michigan	29.56	750.8	30.29	769 4	16	— 8.9	83	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.55	699.8	30.09	764.3	6	—14.4	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.49	749.0	30.24	768.1	18	— 7.8	84	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.47	748.5	30.22	767.6	-5	—15.0	87	SW	2	0.9	.....	.....	10s	.....	Calm	Inap.	nap.	Cloudy	
Eagle Pass, Texas	29.26	743.2	30.03	762.8	42	5.6	74	NW	.....	.....	2	1cs	0	Calm	.....	0	0	Clear	
Eastport, Maine	30.21	767 3	30.29	769.4	8	—13.3	78	W	5	2.2	.....	10k	0	Calm	.....	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	58	14.4	94	S	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	44	6.7	67	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.56	750.8	30.34	770 6	17	— 8.3	83	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.53	750.0	30.25	768 3	10	—12.2	79	NW	4	1.8	.....	5c	0	NW	.....	0	0	Fair	
Florence, Arizona	28 77	730.7	30.37	771 4	31	— 0.6	79	N	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.62	650.7	29.67	753.6	19	— 7.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	31	— 0.6	61	SW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.59	751.6	30.16	766.1	32	0.0	89	SE	2	0.9	.....	.....	10n	.....	SE	0 27	6.9	Sleeting	
Fort Griffin, Texas	28.82	732.0	30.15	765 8	34	1.1	90	N	8	3.6	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Fort McKavett, Texas	27.81	706.4	29.79	756.7	40	4.4	82	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.89	733 8	30.07	763.8	26	— 3.3	100	N	12	5.4	.....	.....	10n	.....	N	0.27	6.9	Heavy snow	
Fort Stevenson, Dakota	28.00	711.2	.....	.....	— 5	—20 6	100	SE	.....	.....	1	5cs	0	W	.....	0	0	Fair	
Fredericksburg, Texas	28.29	718.6	29.87	758.7	48	8.9	78	N	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Galveston, Texas	29.93	760.2	29.97	761.2	54	12.2	100	SE	16	7 2	.....	.....	10n	.....	SE	0.25	6 3	Light rain	
Graham, Texas	28.99	736.3	30.10	764.5	34	1.1	90	N	2	0.9	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Grand Haven, Michigan	29.56	750.8	30.26	768.6	20	— 6.7	85	S	6	2.7	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Indianapolis, Indiana	29.42	747.2	30.25	768.3	25	— 3.9	75	S	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Indianola, Texas	29.92	760.0	29.94	760.5	54	12.2	100	SE	6	2.7	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Jacksboro, Texas	28.90	734.0	30.08	764.0	33	0.6	70	NE	5	2.2	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksonville, Florida	30.33	770.4	30.36	771.1	43	6.1	83	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.58	750.0	30.19	766.8	25	— 3.9	87	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Key West, Florida	30.21	767.3	30.24	768.1	68	20.0	95	E	7	3.1	.....	2k	Fog	E	Calm	0	0	Foggy	
Kittyhawk North Carolina	30.51	774.9	30.51	775 7	29	— 1.7	89	NE	2	0.9	.....	5ck	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.40	746.7	30.49	774.4	25	— 3.9	87	Calm	0	0	.....	8k	2s	W	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.41	747.0	30.20	767.1	18	— 7.8	81	N	1	0.4	.....	0	2n	.....	Calm	0.02	0.5	Light snow	
La Mesilla, New Mexico	26.20	665.5	30.35	770.9	21	— 6.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.61	752.1	29.95	760.7	50	10.0	93	NW	12	5.4	.....	5ck	0	W	.....	0	0	Fair	
Leavenworth, Kansas	29.31	744.5	30.21	767.3	26	— 3.3	75	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.87	758.7	30.22	767.6	30.8	4.5	56	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29 72	754.9	30.32	770.1	25	— 3.9	75	SE	2	0.9	.....	.....	10s;sm	.....	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.71	754 6	30.45	773.4	26	— 3.3	76	SW	2	0.9	.....	0	5ks	.....	Calm	0	0	Fair	
Madison, Wisconsin	29.16	740.7	30.22	767.6	20	— 6.7	85	S	2	0.9	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	
Marquette, Michigan	29.43	747.5	30.19	766.8	12	—11.1	80	SW	8	3.6	.....	8k	2s	SW	Calm	0	0	Cloudy	
Mason, Texas	28.37	720.6	30.16	766.1	44	6.7	92	NW	8	3.6	.....	.....	10s	.....	NW	0.16	4.1	Cloudy	
Memphis, Tennessee	29.96	761.0	30.30	769.6	34	1.1	90	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.43	747.5	30.20	767.1	23	— 5.0	87	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.26	768.6	30.30	769.6	35	1.7	80	N	6	2.7	.....	2c	5s	W	W	0	0	Fair	
Montgomery, Alabama	30.13	765.3	30.38	771.6	41	5.0	73	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virgin	29.25	742.9	30.39	771.9	24	— 4.4	87	SW	1	0 4	.....	1cs	2s;fg	SW	sW;Calm	0	0	Fair	
Mt. Washington, N. H.	28.49	596 6	29.85	758.2	— 4	—20.0	100	NW	66	29.5	.....	.....	Fog	.....	NW	6	0	Foggy	
Nashville, Tennessee	29.78	756.4	30.36	771.1	30	— 1.1	78	Calm	0	0	.....	.....	8s;sm	.....	.....	0	0	Cloudy	
New Haven, Connecticut	30.32	770.1	30.45	773.4	20	— 6.7	77	NW	1	0.4	.....	8cs	0	Calm	.....	0	0	Cloudy	
New London, Connecticut	30.40	772.1	30.45	773.4	18	— 7.8	68	W	6	2.7	.....	5cs	2s	W	Calm	0	0	Fair	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	46	7.8	54	NE	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Newport, Rhode Island	30.37	771.4	30.42	772 6	24	— 4.4	74	SW	.....	.....	2	.....	10ks	.....	Calm	0	0	Cloudy	
New York, New York	30.28	769 1	30.47	773.9	19	— 7.2	84	W	12	5.4	.....	1cs;hz	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.46	773.7	30.53	775.4	26	— 3.3	75	S	1	0.4	.....	10k	0	Calm	.....	0	0	Cloudy	
North Platte, Nebraska	27.15	689.6	29.99	761.7	3	—16.1	73	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.56	750 8	29.69	751.8	35	— 1.7	90	S	5	2.2	.....	.....	10n	.....	S	0.93	23.6	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	nches.	Mill meters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Omaha, Nebraska	29.01	737.6	30.24	768.1	14	—10 0	82	NW	4	1.8	.....	2c	2s	Calm	Calm	Inap.	Inap.	Fair	
Oswego, New York	30.01	762 2	30.35	770.9	26	— 3.3	52	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.14	740.1	30.06	763.5	0	—17.8	100	S	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Philadelphia, Pa	30.44	773.2	30.50	774.7	28	— 2.2	77	SW	4	1.8	.....	0	8ks	.....	W	0	0	Cloudy	
Phœnix, Arizona	29.12	739.6	31.06	788.9	33	0.6	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.48	444.0	29.69	754.1	— 1	—18.3	10	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pioche, Nevada	24.02	610.1	29.80	756.9	16	— 8.9	66	S	7	3.1	.....	8c	2s	W	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.52	749.8	30.42	772.7	11	—11.7	80	SW	3	1.3	.....	.....	8mc;fg	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.56	750.8	30.29	769.4	15	— 9.4	82	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.26	768.6	30.32	770.1	15	— 9.4	82	SW	12	5.4	.....	8k	0	Calm	.....	0	0	Cloudy	
Portland, Oregon	29.64	752.8	29 75	755.6	38 0	3.3	91	S	9	4.0	.....	.....	10n	.....	.....	1.19	30.2	Light rain	
Prescott, Arizona	24.76	628.9	30.12	765.0	12	—11.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	28.95	735.3	29.80	756.9	29	— 1.7	89	SE	10	4.5	.....	.....	10n	.....	SE	0.02	0.5	Light rain	
Punta Rassa, Florida	30.26	768.6	30.28	769.1	61	16.1	82	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.55	750.6	29.91	759.7	47	8.3	55	SE	44	19.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Rio Grande City, Texas	29.77	756.1	29.90	761.7	53	11.7	86	NW	.....	.....	1	2c	2s	SW	Calm	0	0	Fair	
Rochester, New York	29.69	754.1	30.36	771.1	18	— 7.8	84	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.25	742.9	29.82	757.4	38.5	3.6	86	S	9	4.0	.....	.....	10n	.....	Calm	0.36	9.1	Light rain	
Sacramento, California	30.03	762.8	30.12	765.0	40.5	4.7	78	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
St. Louis, Missouri	29.64	752.8	30.25	768.3	30	— 1.1	78	SW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.30	769.6	30.32	770.1	44	6.7	84	NE	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
St. Paul, Minnesota	29.27	743.4	30.18	766.6	7	—13.9	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.70	652.8	30.03	762.8	18.5	— 7.5	77	SE	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Antonio, Texas	29.28	743.7	29.87	758.7	49	9.4	100	N	4	1.8	.....	.....	10s	.....	Calm	0.36	9.1	Cloudy	
San Diego, California	30.20	767.1	30.28	769.1	40.0	4.4	69	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.61	752.1	30.34	770.6	21	— 6.1	71	S	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.48	772.9	30.46	773.7	21	— 6.1	86	SW	17	7.6	.....	2cs	2s	Calm	SW	0	0	Fair	
San Francisco, California	30.04	763.0	30.11	764.8	47	8.3	62	SE	8	3.6	.....	.....	8s	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	8	—13.3	55	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.33	770.4	30.43	772.9	40	4.4	91	NE	7	3.1	.....	1c	Haze	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.81	757.2	30.04	763.0	37	2.8	100	E	4	1.8	.....	.....	10n	.....	Calm	0.50	12.7	Heavy rain	
Silver City, New Mexico	24.22	615.2	30.76	781.3	18	— 7.8	84	NW	8	3.6	.....	0	0	.....	.....	0.06	1.5	Clear	
Smithville, North Carolina	30.47	773.9	30.51	774.9	41	5.0	82	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Springfield, Massachusetts	30.29	769 4	30.43	772.9	13	—10 6	62	SW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Stockton, Texas	27.01	686.0	30.01	762 2	37	2.8	90	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.31	769.9	30.36	771.1	19	— 7.2	69	SW	16	7.2	.....	5cs	5s	W	W	0	0	Cloudy	
Toledo, Ohio	29.55	750.8	30.28	769.1	19	— 7.2	85	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	30	— 1.1	48	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.40	772.1	30.43	772.9	43	6.1	92	NE	16	7.2	.....	0	5s	.....	NE	0	0	Fair	
Umatilla, Oregon	29.26	743.2	29.75	755.6	37.0	2.8	70	SE	2	0.9	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	44	6.7	84	SE	.....	.....	1	5c	0	SW	.....	0.09	2.3	Fair	
Uvalde, Texas	29.18	741.2	30.02	762.5	52	11.1	53	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.95	760.7	30.22	767.6	41	5.0	74	SE	9	4.0	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Virginia City, Montana	24.00	609.6	29.48	748.8	19	— 7.2	84	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.82	757.4	30.21	767 3	33	0.6	84	SE	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Washington, D. C	30.34	770.6	30.47	773.9	22	— 5.6	72	NW	2	0.9	.....	5ck	2s	W	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	25	— 3.9	87	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.43	772.9	30.51	774.9	35	1.7	61	NE	6	2.7	.....	2c	0	W	.....	0	0	Fair	
Winnemucca, Nevada	25.50	647.7	29.86	758.4	29	— 1.7	67	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wood's Holl, Mass	30.36	771.1	30.40	772.1	25	— 3.9	87	W	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.85	732.8	30.31	769.9	— 3	—19.4	66	SE	1	0.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Yuma, Arizona	30.09	764.3	30.27	768.8	33	0.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.52	724.4	29.99	761.7	30	— 1.1	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I	30.15	765.8	30.17	766.3	73	22.8	85	NE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.21	767.3	30.22	767.6	73	22.8	85	Calm	0	0	.....	2c	2s	E	Calm	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	30.00	762.0	30.08	764.0	80	26.7	.....	NE	11.2	5.0	.....	.....	.....	.....	.....	0	0	Fair	F. M Everett.
Paramaribo, D.Guiana, S.A	29.99	761.7	29.99	761.7	79	26.1	87	E	.....	.....	.....	.....	8ks	E	.....	0.180	4.57	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.98	761.5	30.04	763.0	—26.0	—32.2	.....	W	10	4.5	.....	2k	2s	W	W	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramarilo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,478.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,422 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,300 (?) ft., or 396.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,576 ft., or 1,486.2 m.; Mt Washington, 6,585 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,822 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in., Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.02	762.5	45	7.2	47	8.3	77	S	15	6.7	.....	.....	10	.....	S;W	0	0	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.35	770.9	44	6.7	44	6.7	84	NE	10	4.5	.....	.....	10	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.30	769.6	55	12.8	18	— 7.8	68	W	2	0.9	.....	.....	8	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan *	30.26‡	768.6‡	.....	.....	37	2.8	71	N	.....	.....	3	.....	10s;ks	.....	N	0	0	.....	.....	Overcast.....	
Alliance, Smyrna, Turkey	29.92‡	760.0‡	.....	.....	61	16.1	77	SE	.....	.....	2	.....	4	.....	S;E	.....	.....	.....	.....	Clear.....	
Ashuelot, N. 13° 43', E. 100° 29'.....	30.08	764.0	78	25.6	75	23.9	72	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La.....	30.13	765.3	39	3.9	46	7.8	92	NE	.....	.....	5	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	30.36	771.1	20	— 6.7	20	— 6.7	100	SW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Constitution, Havre, France.....	29.43‡	747.5‡	.....	.....	24	— 4.4	.....	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	.....	
Despatch, Constantinople, Turkey	29.68‡	758.9‡	.....	.....	57	13.9	81	SSW	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.....	30.68	779.3	69	20.6	28	— 2.2	77	SW	2.4	1.1	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Gettysburg, Villafranca, France.....	29.74‡	755.4‡	.....	.....	52	11.1	79	E	.....	.....	1	.....	10	.....	SW	0	0	Long	SW	Overcast.....	
Hartford, Montevideo, Uruguay...	30.01	762.2	71	21.7	66	18.9	74	SE	13.0	5.8	.....	.....	5	.....	SE	0	0	Smooth	.....	Fair.....	
Lackawana, Off Panama.....	29.72‡	754.9‡	.....	.....	79	26.1	86	N	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....	30.14†	765.5†	.....	.....	16	— 8.9	66	S	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Yokohama, Japan *.....	30.28‡	769.1‡	.....	.....	39	3.9	55	N	.....	.....	2	.....	8	.....	N	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.36†	771.1†	.....	.....	41	5.0	91	NE	13.	5.8	.....	.....	2	.....	NE	.....	.....	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	67	19.4	89	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.33	770.4	40	4.4	25	— 3.9	87	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	31	— 0.6	79	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama.....	29.88‡	758.9‡	.....	.....	79	26.1	95	NW	2.0	0.9	.....	.....	0	.....	.....	0	0	Smooth	NW	Clear.....	
Powhatan, Norfolk, Va.....	30.52	775.2	30	— 1.1	30	— 1.1	89	SSW	3.5	1.6	.....	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy.....	
Quinnebaug, Norfolk, Va...	30.54‡	775.7‡	.....	.....	29	— 1.7	.....	W	.....	.....	0–1	.....	8	.....	W	.....	.....	.....	.....	Fair.....	
Richmond, Brooklyn, N. Y.....	30.49‡	774.4‡	.....	.....	22	— 5.6	100	WSW	.....	.....	3	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	29.88	758.9	62	16.7	63	17.2	94	S	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md.....	30.45‡	773.4‡	.....	.....	28	— 2.2	.....	SW	.....	.....	2	.....	8	.....	W	0	0	.....	.....	Fair.....	
St. Louis, League Island, Pa.....	30.22	767.6	48	8.9	23	— 5.0	.....	Calm	0	0	.....	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
Supply, N. 46° 14', W. 10° 09'....	29.54‡	750.3‡	.....	.....	53	11.7	86	WNW	.....	.....	6	.....	2	.....	NW	.....	.....	Long	NW	Clear.....	
Trenton Villafranca, France *...	29.67‡	753.6‡	.....	.....	53	11.7	80	E	.....	.....	1–2	.....	5	.....	E	0	0	.....	.....	Fair.....	
Tuscarora, N. 7° 35', W. 82° 09'....	29.89‡	759.2‡	.....	.....	84	28.9	71	SSE	.....	.....	0–1	.....	2k	.....	.....	0	0	.....	.....	Clear.....	
Vandalia, N. 38° 01', W. 71° 57'.....	30.49‡	774.4‡	.....	.....	35	1.7	80	WNW	.....	.....	3	.....	2	.....	WNW	.....	.....	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.44‡	773.2‡	.....	.....	15	— 9.4	.....	SW	10	4.5	.....	.....	8	.....	.....	.....	.....	.....	.....	Hazy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hostpital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 7° 15′, W. 80° 19′		29.92*	760.0*	80	26.7	96	WNW			3		5		NE		Small	NE	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada, San Blas, Mexico		30.21†	767.3†	60	21.1	??	Calm			0		ck		Calm	0	Light	SW	Dense fog	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.87	758.7				SW			1-4				ESE				Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 34° 53′, E. 140° 02′		29.89†	759.2†	47	8.3	??	N			4		k		S	Blank	Heavy	NE	Gloomy	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 33° 31′, W. 73° 51′		30.45	773.4	56.0	13.3	57	ENE			3		5?		NE	0	3	NE	Clear	L. Jahns.
S. S. Leipzig, N. 40° 58′ W. 52° 14′		30.05	763.3	47.8	8.8		WNW			6		8		NW	Blank	10	W		Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.	.....	30.73*	780.5*	31	— 0.6	100	W	.....	.....	2	.....	2	.....	W	0	.....	.....	Clear	Captain Sargent.
S. S. Ohio, Liverpool	.....	29.68†	753.9†	29	— 1.7	100	NE	.....	.....	1	.....	10	.....	NE	Blank	.....	.....	Overcast	Captain Morrison.
S. S. Pennsylvania, Capt. Harris	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 37° 37', W. 72° 53'	.....	30.33*	770.4*	39	3.9	.....	WSW	.....	.....	2	.....	2c;k	.....	w;wsw	0	Slight	WSW	D. clouds	Capt. W. Richardson.
S. S. Hibernian,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

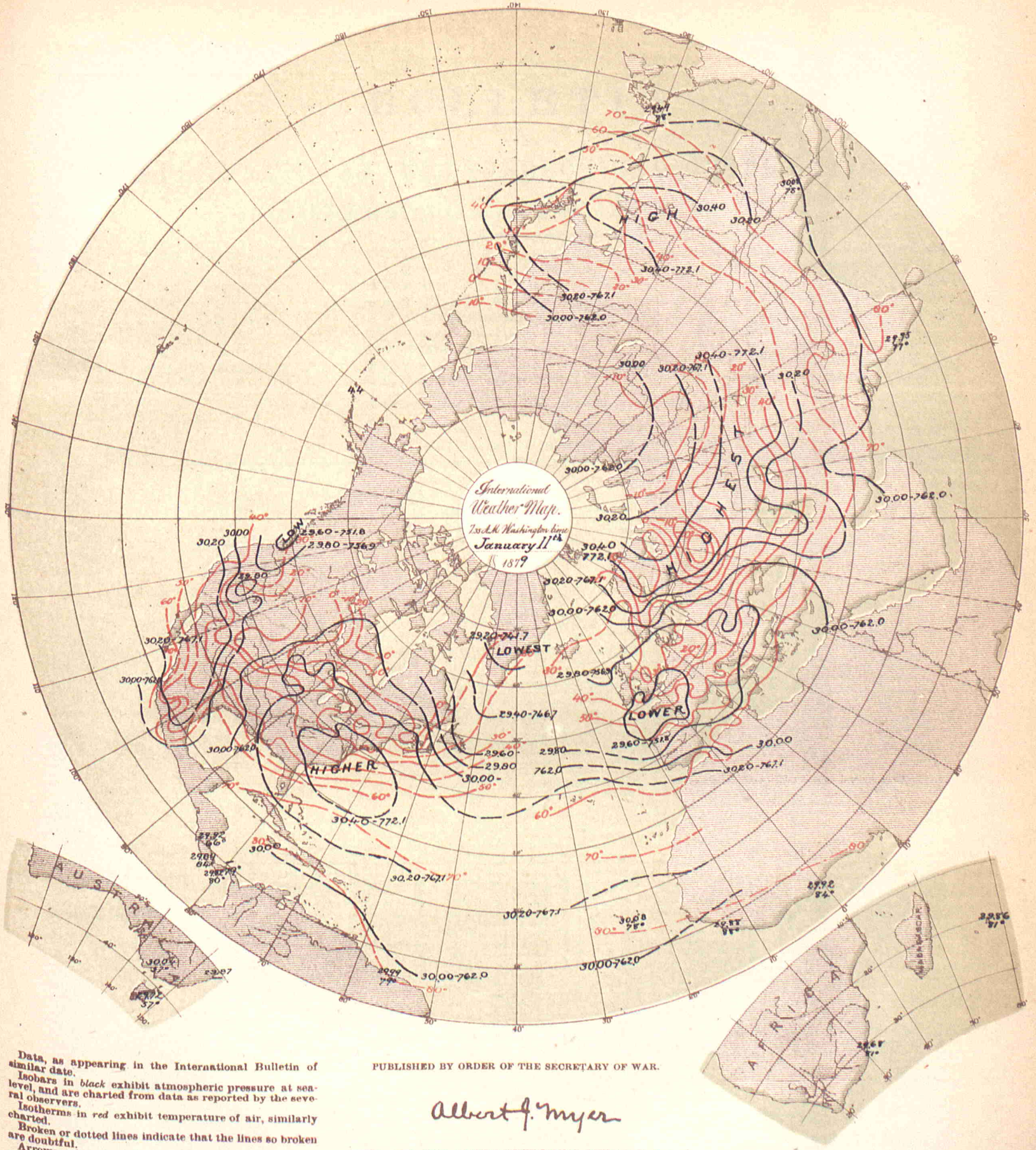
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 12, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Uoper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.32	770.2	62.4	16.9	72	NE	.....	.....	4	.....	3	.....	.....	0	0	Pretty fair..	
Nemours	.....	.....	30.32	770.2	62.4	16.9	88	WNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.10	764.6	58.3	14.6	61	NW	.....	.....	6	.....	8	.....	.....	0.689	17.5	Very cloudy	Tourillere.
La Calle	.....	.....	30.00	761.9	55.0	12.8	68	W	.....	.....	7	.....	8	.....	.....	0.551	14.0	Very cloudy	Foufrede.
Tunis	.....	.....	29.81	757.1	60.4	15.8	67	SW	.....	.....	4	.....	8	.....	.....	0.071	1.8	Very cloudy	Jacques.
Sfax	.....	.....	29.96	761.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.13	765.4	50.0	10.0	74	WNW	.....	.....	6	.....	10	.....	.....	0.902	22.9	Covered	Herbin.
Tebessa	.....	.....	29.98	761.6	46.8	8.2	40	W	.....	.....	7	.....	10	.....	.....	0.028	0.7	Snowing	Watrin.
Geriville	.....	.....	30.12	765.0	44.4	6.9	91	W	.....	.....	1	.....	10	.....	.....	0.079	2.0	Covered	Brugnlaux.
Laghouat	.....	.....	30.05	763.3	54.0	12.2	39	WNW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.98	761.5	62.2	16.8	38	NNW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.47	748.6	30.05	763.2	34.3	1.3	89	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	30.04	762.9	29.1	— 1.6	98	WSW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.10	739.2	30.03	762.8	28.9	— 1.7	86	Calm	.....	.....	0	.....	7cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.76	730.4	30.08	764.1	27.5	— 2.8	89	S	.....	.....	2	.....	0	.....	.....	0.024	0.6	.....	Andreas Rospini
Hermannstadt	28.56	725.5	30.07	763.7	31.1	— 0.5	92	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy	Prof. A. Gottschling.
Kremsmünster	28.58	725.9	30.02	762.4	21.4	— 5.9	97	ENE	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.97	735.8	30.00	762.1	29.8	— 1.2	88	SW	.....	.....	1	.....	10	.....	.....	0.004	0.1	.....	Dr. T. Stanecki.
Pola	29.87	758.7	29.99	761.7	44.8	7.1	81	WNW	.....	.....	3	.....	2	.....	.....	0.016	0.4	.....	I.R.Hydrographic Office.
Szathmar	29.59	751.6	30.08	764.0	32.7	0.4	96	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.72	754.8	30.01	762.3	33.1	0.6	92	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.91	759.8	30.02	762.4	42.4	5.8	90	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.32	744.7	30.08	764.0	28.6	— 1.9	98	SSW	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.88	758.9	29.99	761.7	27.5	— 2.5		W	4	1.8			3			0.150	3.81	Misty	W. Boswell.
Ardrossan																			
Armagh, Observatory			29.84	757.9	36.0	2.2		S	23	10.3									George Carrick.
Bidston, (Liverpool Obs.)			30.06	763.5	30.9	— 0.6		SSE	9	4.0			10					Overcast	S. Call.
Bolton			30.08	764.0	25.0	— 3.9		W	6.0	2.7			10					Foggy	John Hartnup.
Bradford, Yorkshire																			Thomas Mackereth.
Bridgetown, (Barbados)	29.95	760.7	29.98	761.5	79	26.1		NE			2		3			0.31	7.9		J. McLandsborough.
Cambridge, Observatory			30.12	765.0	31.9	— 0.1		W			1		1					D. clouds	Pvt. J. Surgener, A. H.
Cardington			30.16	766.1	28.0	— 2.2		W			1		3					D. clouds	H. Todd. [O.
Chatham, School M. E.	30.02	762.5	30.16	766.1	32.2	0.1		Calm			0		0					Blue sky	John McLaren.
Dartmoor	28.58	725.9	30.12	765.0	31.0	— 0.6		SW			2		9					Snowing	Lt. W. G. Morris, R.E.
Donaghadee	29.86	758.4	29.91	759.7	35	1.7		SW			3		7					D. clouds	Alexander Watt.
Dover	30.14	765.5	30.17	766.3	33	0.6		NW			3		5					½ covered	J. Mac Gowan.
Falmouth, Observatory	29.89	759.2	30.12	765.0	40.9	4.9		S			4		10					Misty	J. Costello.
Fort Napier, (Natal)	27.30	693.4	29.71	754.6	68.0	20.0		E			2		10					Overcast	The Staff.
Free Town, (Sierra Leone)	29.66	753.4	29.89	759 2	86	30.0		E			1		4					D. clouds	Pvt. G.Salmon, A.H. C.
Galway, Queen's College			29.65	753.1	43	6.1		S			3		10					Overcast	
Gibraltar, (Mediterranean)	30.21	767.3	30.27	768.8	58.7	14.8		W			3		1					Blue sky	Prof. A. H. Curtis.
Glasgow, Observatory	29.74	755.4	29.94	760.5	29.0	— 1.7		NE			4							Blue sky	Capt. Wm. Allen, A.H.O.
Great Yarmouth	30.06	763.5	30.07	763.8	28	— 2.2		W			2		3					Blue sky	D. G. Maclean.
Greenwich, Royal Obs'y	29.96	761.0	30.14	765.5	29.6	— 1.3		WSW			1		0					Foggy	G. T. Watson.
Guernsey	29.97	761.2	30.20	767.1	36	2.2		NNE			1		0					Misty	The Staff, for G. B. Airy
Helston	30.03	762.8	30.15	765.8	37	2.8		SE			1		10k					Blue sky	Dr. S. E. Hoskins, F.R.S.
Holyhead	29.92	760.0	29.97	761.2	36	2.2		S			5		10			0	0	Overcast	M. P. Moyle.
Jersey	29.94	760.5	30.25	768.3	36.8	2.7		W			1		5					Misty	John Tilston.
Kew, Observatory	30.12	765.0	30.15	765.8	31.0	— 0.6		W	7	3.1			3					Misty	J. Fisher.
Kingstown	29.88	758.9	29.91	759.7	38	3.3		SSE			3		10					D. clouds	The Staff.
Leicester, Museum	29.81	757.2	30.08	764.0	28.0	— 2.2		SW			1		10					Drizzling	George Mitchell.
Malta, (Mediterranean)	29.58	751.3	29.65	753.1	60	15.6		NW			1		8k					Misty	Wm. J. Harrison, F.G.S.
Naira	29.77	756.1	29.87	758.7	26	— 3.3		Calm			0		5					Blue sky	Sergt. Beckett, A. H. O.
Nassau, (Bahamas)			30.14	765.5	68.0	20.0		SE			1		4					Blue sky	W. D. Penny.
Nottingham, Observatory	29.90	759.4	30.10	764.5	29.9	— 1.2		Calm			0		7c;ck		NW	0.01	0.30	D. clouds	C. S. Duncombe.
Oscott, St. Mary's College	29.57	751.1	30.12	765.0	31.2	— 0.4		WSW			1		10					Foggy	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y			30.14	765.5	28	— 2.2		WSW			1		0					Blue sky	Rev. Stephen Whitty.
Plymouth	30.06	763.5	30.14	765.5	33.8	1.0		Calm			0		10					Gloomy	H. E. Bellamy.
Roche's Point	29.83	757.7	29.87	758.7	46	7.8		S			6		10					Raining	John Merrifield.
Saint Ann's Head																			W. Kennedy.
Sandwick Manse, (Orkneys)			29.92	760.0	32.2	0.1		SE	21	9.4			5					Rain & snow	John C. Walker.
Scutari, Cemetery, (Turkey)			29.96	761.0	53.6	12.0		S			1		5			Blank	Blank	D. clouds	Rev. C. Clouston, LL. D.
Sheffield	29.80	756.9	30.09	764.3	35.2	1.8		Calm			0		6			0.19	4.8	D. clouds	Sergt. W. H. Lyne.
Silloth Rectory	29.97	761.2	30.00	762 0	27 0	— 2.8	81	Calm			0		10			0.92	23.50	Snowing	W. F. Cooper.
Stonyhurst, Observatory	29.66	753.4	30.06	763.5	27.6	— 2.4		N?			0?		10					Overcast	F. H. Redford.
Strathfield Turgiss	29.53	750.0	29.76	755.9	32.3	0.2		SE			1		0					Blue sky	Rev. S. J. Perry.
Thurso	29.84	757.9	29.91	759.7	27	— 2.8		S			1		6					D. clouds	Rev. C. H. Green, F.R.M.S
Truro, Royal Institution			30.08	764.0	48	8.9		SW			4		10					Raining	John Trotter.
Valencia, Observatory	29.71	754.6	29.74	755.4	50.2	10.1		SSE	35	15.6			10					Drizzling	W. Newcombe.
Sub-Series.																			The Staff.
Hobart Town, (Tasmania)			29.91	759 7	53.0	11.7	94	SW			3		10kn			0.02	0.5	Covered	
Leith, Restalrig Park			29.97	761.2	28.0	— 2.2		W			1	0	0			0.62	15.7	Hazy	Francis Abbott, F.R.A.S.
Mauritius, Observatory	29.82	757.4	30.00	762.0	81.0	27.2	65	E	13.0	5.8		2	8	S		0.05	1.3	Cloudy	Andrew Gibb.
Melbourne, Observatory	30.08	764.0	30.17	766.3	56.1	13.4	60	SW	17	7.6			8			0.06	1.5	Fine	C. Meldrum.
Monach Light-house, (Hebrides)			29.71	754.6	43	6.1		S			7		10			0	0		R. L. J. Ellery.
North Unst, (Shetland Is.)																			J. Youngclause.
																			Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series: 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series.

Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Observer.
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex Simpson.
Barque Virginia			Capt. W. Spratly.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'r 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	REMARKS.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	65.8	18.8	78	NE	.....	.....	5	.....	2ks	.....	NE	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals; the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.97	761.2	30.02	762.4	26.4	— 3.1	87	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.00	762.0	30.02	762.5	20.1	— 6.6	89	ESE	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	29.84	758.0	30.01	762.3	21.4	— 5.9	95	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower cloud; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.72	754.8	30.26	768.8	29.5	— 1.4	96	W	.....	.....	1	.....	8	.....	W	0.213	5.4	Very cloudy	Collignon, Director.
Amiens, Normal School	29.61	752.0	30.11	764.9	23 0	— 5.0	94	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bouvallet, Director.
Avignon, Normal School	29.96	761.0	30.04	763.0	45.5	7.5	71	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.44	747.8	30.06	763.4	23.4	— 4.8	80	N	.....	.....	1	.....	0	.....	.....	0.394	10.0	Clear	C. Sallard, Director.
Beauvais, Normal School	29.93	760.1	30.23	767.8	30.7	— 0.7	93	WNW	.....	.....	1	.....	0	.....	.....	0.020	0.50	Clear	rer Eugene Marie, Dir.
Besançon, Normal School	29.22	742.3	30.13	765.3	30 9	— 0 6	.....	SSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.32	744.6	30.23	767.8	32.9	0.5	89	W	.....	.....	1	.....	10n	W	W	0.425	10.8	Raining	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	A. Waquet Director.
Brest, Naval Observatory	29.93	760.1	30.17	766.3	37.0	2.8	79	S	.....	.....	2	.....	10	.....	S	0	0	.....	M.de Rermaur, Director.
Carcassonne, Normal School	29.74	755.5	30.17	766.3	42.4	5.8	70	NW	.....	.....	3	.....	2	NW	NW	0.130	3.3	Slightly cl'dy	September, Director.
Caen, Normal School	30.16	766.1	30.24	768.0	33.8	1	60	W	.....	.....	2	.....	1	.....	.....	0	0	Almost clear	M. Lair, Director.
Chartres, Normal School	29.62	752.3	30.22	767.5	32.7	0.4	92	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.217	5.5	.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.88	733.5	30.31	769.8	33.4	0.8	81	NW	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	Alluard, Director.
Commercy, Normal School	29.24	742.8	30.17	766.2	22.8	— 5.1	93	W	.....	.....	1	.....	2ck	.....	W	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Greasque*	28.87	733.3	30.01	762.3	46.4	8 0	61	NW	.....	.....	2	.....	2	.....	NW	0	0	¼ covered	M. King, Director.
Grenoble, Normal School	29.32	744.7	30.12	765.1	36.3	2.4	.....	NW	.....	.....	1	.....	8ck	NW	N	0	0	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	30.09	764.2	30.32	770.1	37.0	2.8	83	N	.....	.....	1	.....	0	.....	.....	0.047	1.2	Clear	Mouillot, Director.
Le Mans, Normal School	29.97	761.2	30.30	769 5	33.4	0.8	68	NW	.....	.....	1	.....	5	.....	NW	0.24	6.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.23	742.4	30.16	766 1	31.1	— 0.5	100	N	.....	.....	2	.....	10	.....	.....	.....	.....	Covered	Baudry, Director.
Lorient, Naval Observatory	30.18	766.6	30.08	764.1	37.0	2.8	97	SE	.....	.....	1	.....	.....	NW	N	0.039	1.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	..... Galzin, Director
Mirecourt, Normal School	29.01	736.9	30.11	764.8	28.0	— 2.2	83	NE	.....	.....	3	.....	k	.....	SW	0	0	....	M. Barbier, Director.
Nismes, Normal School	29.69	754.1	29.90	759.5	44.2	6.8	49	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.16	639.1	.....	.....	17.2	— 8.2	100	NW	.....	.....	3	.....	.....	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.37	771.5	30.41	772.3	41.5	5.3	100	WSW	.....	.....	1	.....	10	WSW	WSW	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.12	765.0	30.21	767.2	35.6	2.0	57	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.21	767.2	30.24	768.0	37.6	3.1	59	SW	.....	.....	2	.....	1	SW	SW	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.06	763.5	30.23	767.7	30.9	— 0.6	69	W	.....	.....	1	.....	10	.....	.....	0.161	4.1	.....	E. Reclor, Director.
Tarbes, Normal School	29.13	739.8	30.22	767.5	53.6	12	54	S	.....	.....	2	.....	2	W	SW	0	0	Slightly cl'dy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.40	746.8	30.17	766.4	34.7	1.5	89	N	.....	.....	3	.....	2	.....	N	0	0	Slightly cl'dy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.5	29.93	760.2	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.78	756.4	32.5	0.3	85	NW	.....	.....	6	.....	9	.....	.....	0	0	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.79	629.7	30.11	764.7	31 6	— 0 2	59	N	9.4	4.2	.....	.....	0	.....	.....	0.079	2.0	.....	M. Cave.
Nice	.....	.....	29.97	761.2	52 7	11.5	60	W	.....	.....	2	.....	2	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.93	760.3	.....	.....	31.1	— 0.3	79	NW	.....	.....	2	.....	0	.....	.....	0.185	4.7	.....	Marié Davy, Director
Perpignan	30.04	763.2	30.13	765.9	45.5	7.5	60	NW	22.4	10.0	.....	.....	2	.....	NW	0.193	4.9	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade) H. P.	22.54	571.7	.....	.....	17.1	— 8.3	.....	W	.....	.....	3	.....	4	.....	.....	0.697	17.7	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.60	751.7	30.32	770 2	31.5	1.4	76	NW	.....	.....	4	.....	8	.....	.....	0.067	1.7	.....	M. Mercadier Julier.
Tours	30.08	764.0	30.28	769.0	32.7	0.4	90	W	.....	.....	1	.....	10	.....	N	0 232	5.9	.....	C. Marquet.
Versailles Observatory	.....	.....	30.21	767.2	29.8	— 1.2	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Berigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.26	768.7	30.29	769.4	33.6	0.9	84	SE	6.3	2.8	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters or 1,272.9 feet. Commune de Greasque, 342 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.04	737.6	29.88	758.9	36.1	2.3	89	SSW			3		8	SW		0.059	1.5	Rain & snow	Prof. Dr. Hoh.
Berlin	29.84	757.9	30.02	762.5	27.0	— 2.8	83	E			1		10			0	0		Prof. Arndt.
Breslau	29.47	748.5	30.00	762.0	31.3	— 0.4	84	SE			2		10			0	0		
Carlsruhe	29.59	751.6	30.04	763.0	27.3	— 2.6	95	N			1		10			0.209	5.3	Snowing	Royal University Obs'y
Cassel	29.39	746.6	30.00	762.0	23.0	— 5.0	76	NNW			4		10	N		0	0		Albert Senz.
Crefeld	29.90	759.5	30.06	763.6	25.2	— 3.8	75	NW			1		0			0	0		Dr. H. Möhl.
Emden					24.3	— 4.2	88	SSW			2		0			0.035	0.9		Director Lose.
Frankfort on the Main	29.63	752.5	30.00	762.1	28.2	— 2.1		N			2		10			0.130	3.3		Prof. Prestel.
Friedrichshafen	28.52	724.4	30.00	762.1	35.6	2.0	73	SW			1		9	SW		0	0		Physical Society.
Hamburg	30.00	761.9	30.08	763.9	6.4	—14.2	100	SE			1		10			0.039	1.0	Foggy	M. Wilhelm.
Kiel	30.04	762.9	30.05	763.3	10.2	—12.1	96	ESE			2		2			0	0		Captain F. Hegemann
Königsberg, (Prussia)	30.02	762.5	30.11	764.7	24.8	— 4.0	86	NE			3		10			0	0		Prof. G. Karsten.
Köslin			29.98	761.4	28.4	— 2.0		Calm			0		4			0	0		Prof. E Luther.
Leipsic, Observatory	29.58	751.3	30.03	762.7	24.8	— 4.0	87	N			1		10			0	0	Foggy	H. Müller.
Memel, Naval School	30.10	764.5	30.15	765.7	21.9	— 5.6	82	E			2		10ks						Prof. Bruhns, Privy Councellor.
Neufahrwasser	30.08	764.0	30.10	764.4	25.9	— 3.4	87	Calm			0		10			0	0	Misty.	Skalweit.
Posen	29.73	755.2	30.04	763.0	28.4	— 2.0	90	E			2		10			0	0		A. Lothes.
Strassburg (in Alsace)	29.48	748.9	30.06	763.6	31.3	— 0.4	94	NW			3		10	NW		0.060	1.52		Dr. Magener.
Stuttgart	28.93	734.9	29.90	759.4	40.1	4.5	70	W			2		10			0.035	0.9	Rain & snow	Imp. University Observatory.
Treves, (Trier)																			Prof. Schoder.
Weissenburg, (Bavaria)	28.28	720.9	29 93	760.1	38.5	3.6	63	SW	27	12			10		SW	0.067	1.7		Prof. Flesch.
Wustrow, Naval School	30.01	762.2	29.03	762.8	23.5	— 4.7	100	SE			1		10cs			0	0		Dr. Van Bebber.
German Naval Series.																			E. Schütz, Dir.

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.62	752.4	30.01	762 3	61.3	16.3		SW			1.0							⅛Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.97	761.3	30.02	762.6	72.0	22.2	56	NNE				0				0	0	Blue sky	
Deesa	29.55	750.5	30.04	762.9	72.4	23.4	28	N				0				0	0	Blue sky	
Bombay	29.91	759.8	29.95	760.8	74.4	23.6	78	WNW	14.0	6.3		0				0	0	Blue sky	
Poonah	27.96	710.1	29.96	761.1	79.3	26.3		E				0				0	0	Blue sky	
Lahore	29.35	745.4	30.13	765.4	57.6	14.2	53	Calm	0.3	0.1		0				0	0	Blue sky	
Belgaum	27.40	695.8	29.93	760.3	77.6	25.3	56	Calm	0	0		0				0	0	Blue sky	
Roorkee	29.18	741.1	30.12	765.1	59.6	15.3	48	Calm	1.4	0.6		4		SW		0	0	D. clouds	
Agra	29.52	749.8	30.12	765.0	58.8	14.9	70	E				8				0	0	Gloomy	
Nagpur	28.92	734.6	29.98	761.4	77.1	25.1	47	Calm	2.9	1.3		0				0	0		
Lucknow	29.73	755.0	30.12	765.1	56.3	13.5	87	N	0.3	0.1		0				0	0	Blue sky	
Allahabad	29.75	755.6	30.07	763.8	66.1	18.9	77	Calm	1.3	0 6		10				0.17	4.3	Overcast	
Patna	29.87	758.7	30.06	763.5	67.6	19.8	64	W	0.1	0.04		2				0	0	D. clouds	
Hazaribagh	27.97	710.4	30.04	762.9	66.6	19.2	49	WNW	4.2	1.9		0				0	0	Blue sky	
Cuttack	29.93	760.3	30.02	762.4	74.6	23.7	60	ENE	1.5	0.7		0				0	0	Blue sky	
Calcutta (Alipore)	30.00	761.9	30.02	762.5	69.7	20.9	73	N	2.0	0.9		0				0	0	Blue sky	
Goalpara					69.8	21.0	60	E	4.8	2.2		0				0	0	Blue sky	
Chittagong	29.92	759.9	30.01	762.3	72.8	22.7	54	Calm	5.2	2.3		0				0	0		
Sibsagar	29.72	754.8	30.07	763.7	61.9	16.6	83	ENE	0.6	0.3		0				0	0	Blue sky	
Jubbulpore	28.62	727.1	30.02	762.4	72.8	22.7	60	Calm	4.6	2.1		0				0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 352.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	751.7	30.02	762.6	42.6	5.9	64	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.92	759.9	30.03	762.8	38.5	3.6	68	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.50	749.2	30.04	763.0	36.3	2.4	60	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.13	739.8	30.08	764.0	34.3	1.3	76	E	1.8	0.8	.....	.....	3	SE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.07	712.9	30.06	763.4	34.3	1.3	75	N	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.78	756.5	29.98	761.5	42.3	5.7	50	NE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.69	754.0	29.95	760.7	47.7	8.7	55	NE	.....	.....	6	.....	2	.....	.....	0.028	0.7	.....	Cav. F. Meucci
Leghorn	29.80	757.0	29.89	759.2	48.2	9.0	64	E	19.9	8.9	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.98	761.5	30.03	762.8	38.5	3.6	68	N	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.69	754.1	29.87	758.7	52.0	11.1	68	N	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.93	760.1	55.6	13.1	72	SSW	6.3	2.8	.....	.....	7	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.62	752.4	29.82	757.4	56.3	13.5	73	SE	.....	.....	2	.....	8	W	.....	0.315	8.0	.....	Prof. A. Pacinotti.
Cosenza	28.99	736.3	29.89	759.2	53.6	12.0	74	NW	1.8	0.8	.....	.....	10	.....	.....	0.197	5.0	.....	Prof. D. Conti.
Palermo	29.58	751.4	29.84	758.0	50.7	10.4	86	NNE	4.3	1.9	.....	.....	10	.....	.....	0.098	2.5	.....	Prof. G. Cacciatore.
Syracuse	29.76	756.0	29.84	757.8	56.1	13.4	79	NE	6.3	2.8	.....	.....	10	W	.....	0.031	0.8	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.30	744.1	29.85	758.2	51.1	10.6	73	SW	0	0	.....	.....	10	.....	.....	0.142	3.6	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.24	768.1	30.26	768.6	33.4	0.8	79	N	7.0	3.1	.....	0	.....	.....	.....	0	6	Clear	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.08	764.0	30.29	769.3	35.6	1.7	79	S	0.4	0.2	.....	0	.....	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.12	765.0	30.8	— 0.7	90	NNW	16.3	2.8	.....	0	0	.....	.....	0.005	0.13	Foggy	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	1	0	0	.....	.....	0	0	.....	P. Ceballos.
Guadalajara	25.14	638.4	30.32	770.1	44.2	6.8	58	WSW	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. L. Perez.
Leon	24.52	622.8	30.20	767.2	51.8	11.0	73	WSW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.16	588.2	30.35	770.8	45.0	7.2	79	N	2.2	1.0	.....	0	0	.....	.....	0	0	Light fog	The Staff.
Pabellon, (Aguascalites)	.....	.....	.....	.....	50.7	10.4	74	NNW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.17	766.3	30.18	766.6	68.7	20.4	81	N	.....	.....	7	0	10	.....	N	0	0	Rainy	M. M. Cházaro.
San Luis Potosi	24.24	615.7	30.28	769.0	49.0	9.4	87	E	.....	.....	.....	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.17	766.4	30.20	767.1	71.6	22.0	65	N	29.0	13.0	.....	.....	9ks	.....	N	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.63	574.7	.....	.....	49.1	9.5	52	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute	23.43	595.0	30.20	767.0	42.8	6.0	82	N	0.4	0.2	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.7	30.08	764.1	72.1	22.3	60	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Pandia, C. E.
San Juan E. Michapam	30.03	762.8	30.16	766.2	71	-21.7	.....	N	.....	.....	2	7n	3n	N	N	0.099	2.5	Drizzling	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,104.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given.

NETHERLANDS SERIES.

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

Flushing	30.10	764.5	30.10	764.5	33.8	1.0	.....	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	.....	.....	.....	.....	.....	.....	.....	SSW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.01	762.2	30.01	762.2	35.8	2.1	.....	WNW	.....	.....	3	.....	.....	.....	.....	0.063	1.6	.....	
Hellevoetsluis	30.05	763.3	30.05	763.3	33.8	1.0	91	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.01	762.2	30.06	763.4	31.6	— 0.2	90	S	.....	.....	2	.....	2	.....	.....	0.012	0.3	Slightly cl'dy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.04	763.0	30.10	764.4	32.0	0.0	67	E	15.0	6.7	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.27	768.9	30.31	769.9	24.1	— 4.4	63	E	22	10	.....	.....	1	.....	.....	0	0	.....	
Christiania	30.03	762.8	30.19	766.8	28.4	— 2.0	78	NE	13	6	.....	.....	10	.....	.....	0.008	0.2	.....	
Tromsö	30.24	768.2	30.29	769.3	25.2	— 3.8	80	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. Coelho Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.97	761.2	30.16	766.1	59.0	15.0	91	SW	10.5	4.7	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.31	744.4	30.35	770.9	52.3	11.3	80	W	4.9	2.2	.....	.....	3	.....	.....	0.228	5.8	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.27	768.9	30.36	771.1	65.7	18.7	69	ESE	6.9	3.1	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	30.01	762.2	30.37	771.4	57.4	14.1	75	NNW	6.3	2.8	.....	.....	10	.....	.....	0.130	3.3	.....	The Staff.
Ponta Delgada, (Azores)	30.20	767.1	30.27	768.9	61.9	16.6	77	SW	18.1	8.1	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers per hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinto, Com'd'r
D. Fernando	.....	.....	.....	V. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'r
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	3	SE	Blue sky	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'r
Quanza, Ajuda, Upper Guinea	2	SW	D. clouds	A. J. de Mattos, Com'd'r.
Sá da Bandeira, Saint Paul de Loando	2	W	D. clouds	F. Texeira da Silva, Com'd'r.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd'r.
Tejo, Hong-Kong, China	1	.....	Blue sky	M. T. Guimaraes, Com'd'r.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.59	751.6	30.03	762.8	20.8	— 1.2	92	SE	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.71	754.6	30.17	766.2	19.2	— 7.1	88	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	30.14	765.6	30.41	772.4	10.2	—12.1	67	ENE	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.49	774.5	30.51	774.9	11.8	—11.2	97	ESE	7	3	.....	.....	8n	.....	.....	.....	.....	Light fog	Central Physical Obs.
Kieff	29.27	743.4	29.95	760.6	21.4	— 5.9	100	N	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Nikolaiev	29.91	759.7	29.98	761.5	34.5	1.4	96	W	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.02	762.5	30.04	763.0	49.6	9.8	92	N	4	2	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.76	756.0	30.36	771.2	13.5	—10.3	87	W	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.85	758.2	30.07	763.6	31.3	— 0.4	87	ESE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.41	772.3	30.43	772.8	26.2	— 3.2	91	WSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt Sselliwerstow.
Tiflis	28.71	729.1	30.16	766.1	45.1	7.3	65	N	9	4	.....	.....	9k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.41	772.3	30.32	770.2	28.8	— 1.8	58	E	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	30.01	762.3	30.54	775.8	2.8	—16.2	72	W	2	1	.....	.....	9s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.21	767.3	30.51	775.0	3.7	—15.7	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.06	738.0	30.09	764.2	18.5	— 7.5	89	W	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.19	766.9	30.45	773.3	26.6	— 3.0	68	E	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	
Tashkend	28.42	721.9	30.21	767.4	34.2	1.2	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.65	753.1	30.24	768.1	— 3.3	—19.6	88	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.76	755.8	30.09	764.3	—16.6	—27.0	83	WNW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.00	761.9	30.14	765.5	27.5	— 2.5	64	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.70	754.4	29.79	756.6	— 9.4	—23.0	76	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455.7 m., or 1,492.77 ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660.7 m., or 2,165.27 ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.1	53.6	12	54	WNW	2.4	1.06	.....	.....	.....	.....	.....	0	0	Clear	Antonio Rave, Director
Bilbao, Met. Obs'y	30.26	768.7	30.32	770.2	50.9	10.5	79	NW	3.2	1.42	.....	3	6	N	.....	0.205	5.2	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.27	692.6	.....	.....	42.8	6.0	70	N	6.8	3.06	.....	.....	2	.....	.....	0	0	.....	Domingo Martin y Perez.
Madrid, Royal Observatory	28.02	711.8	.....	.....	48.0	8.9	58	NE	7.4	3.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.00	762.1	30.16	766.0	61.3	16.3	54	NW	4.8	2.17	.....	0	0	.....	.....	0	0	Clear	Diayo Diaz, Director.
Santiago, Met. Obs'y.	29.35	745.6	30.27	768.8	50.5	10.3	89	SE	6.3	2.8	.....	.....	10	.....	.....	0.201	5.1	Covered	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	764.0	30.15	765.7	68.6	20.3	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.81	757.3	29.86	758.6	80.6	27.2	82	E	0	0	.....	1	0	S	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.26	768.6	30.36	771.2	55.8	13.2	73	NW	17.3	7.7	.....	0	2	.....	N	0.019	0.5	.....	Capt. C. Pulazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.00	762.0	30.09	764.3	75.9	24.4	87	E	5.7	2.56	.....	3k	2kn	E	E	0	0	D. clouds	Leonardo de Tejeda, Ch't Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low't 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Haparanda	30.60	777.2	30.64	778.2	16.5	— 8.6	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.52	775.3	30.58	776.6	18.7	— 7.4	.....	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.43	772.9	30.48	774.2	23.7	— 4.6	77	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Stockholm	30.07	763.8	30.25	768.3	28.8	— 1.8	84	ESE	.....	.....	6	.....	10	.....	.....	0.098	2.5	.....	
Wisby	30.03	762.8	30.09	764.3	26.6	— 3.0	83	ESE	.....	.....	6	.....	10	.....	.....	0.193	4.9	.....	
Sub-Series.																			
Upsala	30.18	766.6	30.26	768.5	28.2	— 2.1	85	E	4.5	2.0	.....	.....	10	.....	.....	0.009	0.23	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor F. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.6	30.07	763.8	40.5	4.7	58	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.34	719.7	30.03	762.7	38.1	3.4	66	SE	.....	.....	2	.....	5	.....	.....	0.012	0.3	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.1 mm.; Thermometer, +3.8 cent.; Relative Humidity, —21 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Comanbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.00	762.0	53.2	11.8	93	SE	2	1.0	.....	.....	10	.....	SW	0.535	13.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.95	760.7	59.9	15.5	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.05	763.3	30.17	766.2	68.0	20.0	68	SW	.....	.....	2	.....	3ks	.....	SW	0.25	6.3	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.93	760.2	30.27	768.8	14	—10.0	.....	Calm	0	0	.....	.....	10s	.....	SW	0.15	3.8	Cloudy.....	W. R. Bigg.
*Chatham, N. B	30.11	764.8	30.18	766.6	— 8	—22.2	96	Calm	0	0	.....	2k	8ks	SW	SW	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.09	764.3	30.14	765.5	8	—13.3	100	NW	6	2.7	.....	0	2s	.....	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.03	762.8	30.24	768.1	14.7	— 9.6	100	SW	.....	.....	2	.....	Fog	.....	.....	0	0	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.88	758.9	29.93	760.2	36.1	2.3	100	Calm	.....	.....	.....	10cs	0	.....	.....	0.24	6.1	Overcast	W. H. Bevis.
*Father Point, Quebec	30.14	765.5	30.17	766.3	13	—10.6	71	NW	20	8.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	T. McWilliams.
Fredericton, N. B	30.18	766.6	30.25	768.3	2.1	—16.6	97	NW	1.0	0.4	.....	10cs	0	.....	.....	0	0	Overcast.....	Prof. Harrison.
*Fort Garry Manitoba	29.67	738.4	29.98	761.5	6	—14.4	100	E	8	3.6	.....	.....	10n	.....	.....	0.210	5.33	Light snow..	James Stewart.
Granton, Ontario	29.05	737.9	30.31	769.9	— 7	—21.7	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	30.01	762.2	30.16	766.1	11	—11.7	89	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.85	758.2	30.27	768.8	5.1	—14.9	87	SW	.....	.....	1	4c	0	W	.....	0	0	Fair.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.79	756.7	29.81	757.2	15	— 9.4	100	NW	.....	.....	5	0	0	.....	.....	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.91	759.7	30.28	769.1	12	—11.1	89	NE	1	0.4	.....	.....	Fog	.....	NE	0.04	1.0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.98	761.5	30.02	762.5	19.2	— 7.1	91	SW	7	3.1	.....	6k	0	W	.....	0	0	.....	C. H. Rigby.
Moose Factory, Ontario	29.98	761.5	30.02	762.5	— 0.1	—17.8	97	W	.....	.....	1	5cs	0	.....	.....	Inap.	Inap	Fair	J. R. Nason.
*Montreal, Quebec	30.07	763.8	30.29	769.4	13	—10.6	98	.....	1	0.4	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.45	748.0	30.20	767.1	21	— 6.1	86	SE	5	2.2	.....	5k	5ks	.....	.....	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.45	748.0	30.28	769.1	10.7	—11.8	70	Calm	0	0	.....	0	0	.....	.....	.....	.....	Hazy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.51	749.5	30.27	768.8	15	— 9.4	90	N	6	2.7	.....	.....	Haze	.....	.....	0	0	Hazy.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.56	750.8	30.26	768.6	13	—10.6	96	NE	.....	.....	.....	.....	Fog	.....	N	0	0	Foggy.....	M. Payne.
*Quebec, Quebec	29.91	759.7	30.27	768.8	6	—14.4	76	NW	.....	.....	3	0	0	.....	.....	0.05	1.3	Clear..	Capt. Ashe, R. N
*Rockliffe, Ontario	29.73	755.1	30.25	768.3	1	—17.2	86	E	3	1.3	.....	.....	10s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.14	765.5	30.19	766.8	12	—11.1	86	NW	.....	.....	2	0	0	.....	.....	0	0	Clear.	Dr. Gove.
St. John, N. B	30.09	764.3	30.27	768.8	13	—10.6	71	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.	G. Murdock, C. E.
*Saugeen, Ontario	29.44	747.8	30.22	767.6	15	— 9.4	88	SE	14	6.3	.....	.....	10s	.....	.....	0.09	2.3	Cloudy.....	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap.	.....	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.28	769.1	5.6	—14.7	96	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	C. J. MacGregor, M. A
*Sydney, C. B	30.00	762.0	30.04	763.0	18	— 7.8	87	W	11	4.9	.....	0	5n	.....	.....	Inap.	Inap.	Light snow.	T. C. Hill.
*Toronto, Ontario	29.55	758.2	30.28	769.1	4	—15.6	82	Calm	0	0	.....	2cs	0	Calm	.....	0.15	3.8	Clear.....	Magnetic Observatory.
Windsor, N. S	30.03	762.8	30.13	765.3	14.5	— 9.7	91	W	7	3.1	.....	4ck	0	Calm	.....	0	0	Fair.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	16.0	— 8.9	100	W	.....	.....	6	3k	4s	.....	.....	0.02	0.5	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUD. Amount. Up'r 0—10.	CLOUD. Amount. Low'r 0—10.	CLOUD. Direction. Upper. From —	CLOUD. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.09	764.3	30.35	770.9	1	—17.2	100	Calm	0	0	.....	Haze	Haze	.....	.....	0.03	0.8	Hazy	
Alpena, Michigan	29.47	748.5	30.16	766.1	24	— 4.4	74	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	28.88	728.5	29.83	757.7	43	6.1	83	NW	26	11.6	.....	.....	10s	.....	NW	1.81	46.0	Cloudy	
Atlantic City, New Jersey	29.86	758.4	29.87	758.7	33	0.6	100	S	8	3.6	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Augusta, Georgia	29.62	752.3	29.79	756.7	55	12.8	87	NW	10	4.5	.....	.....	10n	.....	SW	0.72	18.3	Light rain	
Baltimore, Maryland	30.17	766.3	30.22	767.6	32	0.0	89	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.23	767.8	30.26	768.6	32	0.0	79	E	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	27.92	709.2	29.77	756.1	0	—17.8	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.81	731.8	30.22	767.6	32	0.0	79	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.14	689.3	30.10	764.5	26	— 3.3	100	SW	2	0.9	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Boston, Massachusetts	30.16	766.1	30.32	770.1	17	— 8.3	67	NW	9	4.0	.....	6c;cs	Haze	W	Calm	0.01	0.3	Fair	
Brackettville, Texas	29.14	740.1	30.22	767.6	40	4.4	25	NE	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Breckenridge, Minnesota	28.80	731.5	29.86	758.4	9	—12.8	100	SW	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair	
Brownsville, Texas	30.31	769.9	30.38	771.6	41	5.0	82	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.50	749.3	30.28	769.1	7.5	—13.6	66	SE	4	1.8	.....	0s	2s	.....	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	24	— 4.4	24	E	.....	.....	1	5c	0	E	.....	0	0	Fair	
Burlington, Vermont	29.98	761.5	30.30	769.6	13	—10.6	81	S	3	1.3	.....	1ck	0	Calm	.....	0	0	Fair	
Cairo, Illinois	29.82	757.4	30.24	768.1	28	— 2.2	77	N	8	3.6	.....	0	0	.....	.....	0.50	12.7	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.27	641.8	30.07	763.8	25	— 3.9	87	N	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	17	— 8.3	35	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.47	697.7	30.04	763.0	22	— 5.6	48	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.99	761.7	30.00	762.0	49	9.4	100	NE	22	9.8	.....	.....	10n	.....	NE	0.64	16.7	Light rain	
Cape Henry, Virginia	30.07	763.8	30.09	764.3	39	3.9	100	E	12	5.4	.....	.....	10n	.....	Calm	0.57	14.5	Light rain	
Cape Lookout, N. Carolina	29.91	759.7	29.92	760.0	53	11.7	100	SE	20	8.9	.....	.....	10n	.....	S	1.31	33.3	Light rain	
Cape May, New Jersey	30.20	767.1	30.23	767.8	31	— 0.6	89	NE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Charleston, South Carolina	29.89	759.9	29.86	758.4	60	15.6	94	SW	20	8.9	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Cheyenne, Wyoming	28.94	608.1	29.88	758.9	17	— 8.3	67	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.44	747.8	30.18	766.6	21	— 6.1	71	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.40	746.7	30.09	764.3	28	— 2.2	88	NE	7	3.1	.....	.....	10s	.....	NE	0.02	0.5	Threatening	
Cleveland, Ohio	29.44	747.8	30.21	767.3	23	— 5.0	86	E	6	2.7	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Coleman City, Texas	28.45	722.6	30.26	768.6	24	— 4.4	74	Calm	0	0	.....	1c	0	Calm	.....	Inap.	Inap.	Clear	
Columbus, Ohio	29.20	741.7	30.09	764.3	23	— 5.0	72	N	4	1.8	.....	5ck	Fog	Calm	Calm	0.01	1.0	Fair	
Corpus, Texas	28.80	718.8	30.41	764.8	23	— 5.0	73	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Corsicana, Texas	29.85	758.2	30.36	771.1	25	— 3.9	87	NW	5	2.2	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy	
Davenport, Iowa	29.54	750.3	30.25	768.3	5	—15.0	75	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.17	639.3	.....	.....	32	0.0	79	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.08	738.6	30.36	771.1	20	— 6.7	27	N	3	1.3	.....	0	0	.....	.....	0.30	7.6	Clear	
Denison, Texas	29.49	749.0	30.35	770.9	26	— 3.3	88	NW	2	0.9	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy	
Denver, Colorado	24.71	627.6	29.93	760.2	6	—14.4	52	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.20	741.7	30.16	766.1	13	—10.6	81	SW	2	0.9	.....	2c	Sm'e	NW	Calm	0	0	Clear	
Detroit, Michigan	29.49	749.0	30.22	767.6	14	—10.0	82	NE	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Dodge City, Kansas	27.43	696.7	29.91	759.7	12	—11.1	80	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.46	748.3	30.24	768.1	4	—15.6	48	S	1	0.4	.....	.....	Fog	.....	S	0	0	Foggy	
Duluth, Minnesota	29.20	741.7	29.92	760.0	21	— 6.1	86	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.53	750.0	30.34	770.6	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.15	765.8	30.23	767.8	14	—10.0	73	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	34	1.1	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	43	6.1	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.44	747.8	30.19	766.8	21	— 6.1	86	NE	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Escanaba, Michigan	29.41	747.0	30.12	765.0	16	— 8.9	66	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.58	725.9	30.18	766.6	32	0.0	59	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.72	653.3	29.78	756.4	9	—12.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.30	742.6	30.26	768.6	28	— 2.2	69	SW	5	2.2	.....	2c	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.73	755.1	30.32	770.1	21	— 6.1	78	SW	1	0.4	.....	.....	10s	.....	W	0.33	8.4	Cloudy	
Fort Griffin, Texas	28.98	736.1	30.46	772.1	12	—11.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.92	711.7	30.10	764.5	25	— 3.9	62	Calm	0	0	.....	0	0	.....	.....	0.16	4.1	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Fort Sill, Indian Territory	29.04	737.6	30.29	769.4	6	—14.4	100	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fog	.....	.....	0.22	5.6	Dense fog	
Fredericksburg, Texas	28.51	724.1	30.14	765.5	46	7.8	84	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.26	768.6	30.31	769.9	36	2.2	80	NW	12	5.4	.....	0	0	.....	.....	0.10	2.5	Clear	
Graham, Texas	29.17	740.9	30.38	771.6	2	—16.7	100	Calm	0	0	.....	0	0	.....	.....	0.11	2.8	Clear	
Grand Haven, Michigan	29.49	749.0	30.19	766.8	16	— 8.9	66	S	8	3.6	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Indianapolis, Indiana	29.31	744.5	30.15	765.8	18	— 7.8	84	N	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianola, Texas	30.33	770.4	30.36	771.1	36	2.2	71	N	19	8.5	.....	0	0	.....	.....	0.10	2.5	Clear	
Jacksboro, Texas	29.08	738.6	30.33	770.4	16	— 8.9	66	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.91	759.7	29.93	760.2	64	17.8	83	S	26	11.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Keokuk, Iowa	29.56	750.8	30.24	768.1	6	—14.4	76	W	1	0.4	.....	0	1s	.....	W	0	0	Clear	
Key West, Florida	30.09	764.5	30.13	765.5	72	22.2	90	SE	9	4.0	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.98	761.5	30.00	762.0	44	6.7	100	NE	20	8.9	.....	.....	10n	.....	NE	0.58	14.7	Light rain	
Knoxville, Tennessee	28.85	732.8	29.88	758.9	40	4.4	95	Calm	0	0	.....	.....	10n	.....	Calm	2.95	74.9	Heavy rain	
La Crosse, Wisconsin	29.28	743.7	30.07	763.8	16	— 8.9	83	S	12	5.4	.....	0	0	.....	.....	Inap	Inap.	Clear	
La Mesilla, New Mexico	26.28	667.5	30.44	773.2	18	— 7.8	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.92	760.0	30.29	769.4	33	0.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.31	744.5	30.24	768.1	9	—12.8	78	S	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.78	756.4	30.14	765.5	43.9	6.6	76	NE	6	2.7	.....	5k	0	SE	.....	0	0	Fair	
Louisville, Kentucky	29.48	748.8	30.07	763.8	29	— 1.7	89	NW	7	3.1	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Lynchburg, Virginia	29.36	745.7	30.06	763.5	37	2.8	100	NE	8	3.6	.....	.....	10n	.....	Calm	1.31	33.3	Light rain	
Madison, Wisconsin	29.11	739.4	30.19	766.8	8	—13.5	78	S	6	2.7	.....	0	Fog	.....	.....	0	0	Clear	
Marquette, Michigan	29.28	743.7	30.01	762.2	27	— 2.8	76	SW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.62	726.9	30.53	775.4	26	— 3.3	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.38	758.9	30.22	767.6	34	1.1	90	NW	8	3.6	.....	.....	10s	.....	NW	1.86	47.2	Cloudy	
Milwaukee, Wisconsin	29.40	746.7	30.20	767.1	14	—10.0	82	SW	6	2.7	.....	.....	8-;fog	.....	SW	0	0	Cloudy	
Mobile, Alabama	30.14	765.5	30.18	766.6	42	5.6	74	NW	14	6.3	.....	0	1s	.....	N	0.21	5.3	Clear	
Montgomery, Alabama	29.83	757.7	30.07	763.8	42	5.6	65	W	26	11.6	.....	.....	10ks	.....	W	0.72	18.3	Cloudy	
Morgantown, West Virginia	28.99	736.3	30.08	764.0	33	0.6	89	N	11	4.9	.....	5ck;cs	5s	N;Calm	N	0.02	0.5	Cloudy	
Mt. Washington, N. H.	23.74	597.9	29.90	759.4	— 3	—19.4	66	NW	51	22.8	.....	2s	0	Calm	.....	0.11	2.8	Clear	
Nashville, Tennessee	29.46	748.3	30.01	762.2	37	2.8	100	NW	4	1.8	.....	.....	10ks	.....	NW	1.73	43.9	Cloudy	
New Haven, Connecticut	30.19	766.8	30.32	770.1	19	— 7.2	85	N	8	3.6	.....	5cs	0	Calm	.....	0.01	0.3	Fair	
New London, Connecticut	30.27	768.8	30.32	770.1	19	— 7.2	85	N	6	2.7	.....	5cs	2s	N	Calm	0	0	Fair	
New Orleans, Louisiana	30.15	765.8	30.21	767.3	43	6.1	67	NW	16	7.2	.....	0	0	.....	.....	0.27	6.9	Clear	
Newport, Rhode Island	30.26	768.6	30.31	769.9	22	— 5.6	72	N	6	2.7	.....	.....	10ks	.....	Calm	0.03	0.8	Cloudy	
New York, New York	30.13	765.3	30.32	770.1	25	— 3.9	75	NE	12	5.4	.....	Haze	Haze	Calm	.....	0	0	Dense haze	
Norfolk, Virginia	29.98	761.5	30.06	763.5	39	3.9	100	E	8	3.6	.....	.....	10n	.....	Calm	0.40	10.2	Light rain	
North Platte, Nebraska	27.04	686.8	29.84	757.9	6	—14.4	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.91	759.7	29.95	760.7	38.2	3.4	91	S	4	1.8	.....	.....	10n	.....	Calm	0.27	6.9	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	28.89	733.8	30.07	763.8	17	— 8.3	75	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.96	761.0	30.30	769.6	28	— 2.2	66	SE	7	3.1	.....	.....	10s	.....	.....	0.02	0.5	Cloudy	
Pembina, Dakota	28.98	736.1	29.87	758.7	10	—12.2	100	N	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Philadelphia, Pa	30.22	767.6	30.28	769.1	26	— 3.3	73	NE	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	29.00	736.6	30.94	785.9	28	— 2.2	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.59	446.8	29.80	756.9	14	—10.0	28	W	44	19.7	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.00	609.6	29.77	756.1	23	— 5.0	60	S	10	4.5	.....	8ck	2s	SW	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.29	744.0	30.14	765.5	29	— 1.7	89	E	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Port Huron, Michigan	29.50	749.3	30.22	767.6	15	— 9.4	100	SE	1	0.4	.....	.....	Fog	.....	Calm	Inap.	Inap	Dense fog	
Portland, Maine	30.25	768.3	30.30	769.6	16	— 8.9	66	W	2	0.9	.....	1k	Haze	Calm	.....	0	0	Clear	
Portland, Oregon	29.99	761.7	30.10	764.5	34.0	— 1.1	90	S	4	1.8	.....	.....	10ks	.....	S	0.02	0.5	Cloudy	
Prescott, Arizona	24.72	627.9	30.08	764.0	15	— 9.4	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.16	740.7	30.04	763.0	22	— 5.6	72	S	10	4.5	.....	5k	5s	SE	S	0.01	0.3	Cloudy	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	63	—17.2	89	SW	6	2.7	.....	5k	Fog	SW	.....	0	0	Fair	
Red Bluff, California	29.77	756.1	30.14	765.5	40	4.4	91	N	2	0.9	.....	.....	10ks	.....	SE	0.94	23.9	Cloudy	
Rio Grande City, Texas	30.20	767.1	30.44	773.2	37	2.8	63	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.62	752.3	30.30	769 6	9	—12.8	78	SW	7	3.1	.....	5k	0	SW	.....	0	0	Fair	
Roseburg, Oregon	29.52	749.8	30.12	765.0	28.0	— 2.2	94	Calm	0	0	.....	1c	0	Calm	.....	Inap.	Inap.	Clear	
Sacramento, California	30.04	763.0	30.12	765.0	41.2	5.1	91	Calm	0	0	.....	0	10ks	.....	S	0.59	15.0	Cloudy	
St. Louis, Missouri	29.64	752.8	30.27	768 8	17	— 8.3	83	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.99	761.7	30.01	762.2	56	13.3	75	NW	12	5.4	.....	0	2s	.....	NW	0.11	2.8	Fair	
St. Paul, Minnesota	29.04	737.6	29.92	760.0	17	— 8.3	85	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.60	650.2	29.92	760.0	32.5	0.3	65	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.65	753 1	30.28	769.1	33	0.6	89	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
San Diego, California	30.08	764.0	30.15	765.8	43.0	6.1	91	NE	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Sandusky, Ohio	29.48	748.8	30.19	766.8	28	— 2.2	77	E	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.25	768.3	30.29	769.4	27	— 2.8	76	NE	20	8.9	.....	.....	10s	.....	NE	0	0	Cloudy	
San Francisco, California	30.03	762.7	30.10	764.5	42.3	5.7	86	SE	6	2.7	.....	5k	0	SE	.....	0.84	21.3	Fair	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	12	—11.1	61	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.80	756.9	29.89	759.2	62	16.7	94	SW	16	7.2	.....	.....	10n	.....	SW	0.20	5.1	Heavy rain	
Shreveport, Louisiana	30.09	764.3	30.33	770.4	33	0.6	100	Calm	0	0	.....	.....	10s	.....	Calm	1.42	36.1	Cloudy	
Silver City, New Mexico	24.32	617.7	30.89	784.6	19	— 7.2	84	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.83	757.7	29.86	758.4	58	14.4	100	S	28	12.5	.....	.....	Fog	.....	S	0.09	2.3	Light rain	
Springfield, Massachusetts	30.18	766.6	30.33	770.4	13	—10.6	62	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Stockton, Texas	27.13	689.1	30.13	765.3	25	— 3.9	87	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.25	768.3	30.31	769.9	24	— 4.4	74	NW	12	5.4	.....	1c	0	NW	.....	Inap.	Inap.	Clear	
Toledo, Ohio	29.47	748.5	30.21	767.3	16	— 8.7	83	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	33	0.6	33	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.86	758.4	29.89	759.2	58	14.4	100	S	21	9.4	.....	.....	10n	.....	S	0.10	2.5	Light rain	
Umatilla, Oregon	29.69	754.1	30.22	767.6	21.0	— 6.1	86	SE	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	39	3.9	82	SE	.....	.....	1	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.38	746.2	30.24	768.1	44	6.7	37	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.04	763.0	30.31	769.9	38	3.3	91	NW	12	5.4	.....	.....	10s	.....	NW	1.82	46.2	Cloudy	
Virginia City, Montana	24.06	611.1	29.54	750.3	20	— 6.7	85	Calm	0	0	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Visalia, California	29.74	755.4	30.12	765.0	45	7.2	76	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.10	764.5	30.22	767.6	30	— 1.1	89	NE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	25	— 3.9	75	NE	.....	.....	1	2cs	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.74	755.4	29.82	757.4	61	16.1	94	S	18	8.0	.....	.....	10s	.....	S	0.45	11.4	Cloudy	
Winnemucca, Nevada	25.56	649.2	29.92	760.0	29	— 1.7	100	Calm	0	0	.....	.....	10n	.....	Calm	0.39	9.9	Light snow	
Wood's Holl, Mass.	30.26	768.6	30.30	769.6	20	— 6.7	69	N	8	3.6	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Yankton, Dakota	28.65	727.7	30.02	762.5	18	— 7.8	76	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.98	761.5	30.15	765.8	38	3.3	54	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark.	28.64	727.4	30.16	766.1	20	— 6.7	100	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.10	764.5	30.12	765.0	72	22.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.21	767.3	30.22	767.6	77	25.0	82	Calm	0	0	.....	5c	2s	Calm	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.98	761.5	30.06	763.5	79	26.1	.....	NE	6	2.7	.....	.....	.....	.....	.....	0	0	Cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	80	26.7	87	E	.....	.....	2	.....	8ks	NE	.....	0.720	18.29	Cloudy	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.05	763.3	30.10	764.5	—34.0	—36.7	.....	W	4	1.8	.....	0	0	.....	.....	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,33 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Prackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,740 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,779 (?) ft., or 483.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,422 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Lavis, 5,563 (?) ft., or 1,695.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,300 (?) ft., or 396.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,286 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,546 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in., Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.04	763.0	39.5	4.2	38	3.3	81	E	2	0.9	.....	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.18	766.6	46	7.8	46	7.8	84	NW	3	1.3	.....	.....	0	.....	.....	1.35	34.3	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	30.10	764.5	54	12.2	12	—11.1	80	W	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan *	30.11‡	764.8‡	.....	.....	35	1.7	95	Calm	.....	.....	0		0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, Smyrna, Turkey	30.02‡	762 5‡	.....	.....	62	16.7	88	S	.....	.....	1-3		9	.....	S	Blank	Blank	.....	.....	Clear.....	
Ashuelot, N. 13° 43′, E. 100° 29′	30.04	763.0	74	23.3	73	22.8	58	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Rainy.....	
Canonicus, New Orleans, La	30.14	765.5	37	2.8	42	5.6	91	NW	.....	.....	6	.....	8	.....	NW	.....	.....	.....	.....	Hazy.....	
Colorado, New York, N. Y.	30.24	768.1	26	— 3.3	25	— 3.9	100	N	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Fair.....	
Constitution, Havre, France	30.11‡	764.8‡	.....	.....	37	2.8	90	NW	.....	.....	1	.....	7	.....	NW	.....	.....	.....	.....	Overcast.....	
Despatch, Constantinople, Turkey	30.04‡	763.0‡	.....	.....	53	11.7	93	N	.....	.....	1	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.	30.23	767.8	72	22.2	40	4.4	91	NE	1.6	0.7	.....	.....	10	.....	Calm	0.5	13.	.....	.....	Raining.....	
Gettysburg, Villafranca, France	29.73‡	755.1‡	.....	.....	62	16.7	94	W	.....	.....	0-1	.....	2	.....	.....	0	0	Smooth	.....	D. clouds.....	
Hartford, Montevideo, Uruguay	30.04	763.0	71	21.7	74	23.3	54	NNE	1.2	0.5	.....	.....	2	.....	.....	0	0	Smooth	.....	Clear	
Lackawana, Panama	29.70‡	754.4‡	.....	.....	78	25.6	86	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa	30.01†	762.2‡	.....	.....	21	— 6.1	86	SE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan *	30.10‡	764.5‡	.....	.....	34	1.1	90	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	29.98†	761.5‡	.....	.....	56	13.3	100	S	26	11.6	.....	.....	10	.....	.....	0.10	2.5	.....	.....	Light rain...	
Onward, Callao, Peru	30.02†	762.5‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.10	764.5	37	2.8	26	— 3.3	75	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	26	— 3.3	75	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.	
Pensacola, Panama	29.87‡	758.7‡	.....	.....	80	26.7	91	NW	2.0	0.9	.....	.....	2	.....	.....	0	0	Smooth	NW	Fair.....	
Powhatan, Norfolk, Va.	30.06	763.5	42	5.6	42	5.6	91	W	12.4	5.5	.....	.....	10	.....	NE	.....	.....	.....	.....	Raining.....	
Quinnebaug, N. 36° 34′, W. 73° 24′	30.18‡	766.6‡	.....	.....	52	11.1	....	ENE	.....	.....	4-5	.....	10	.....	ENE	.....	.....	.....	.....	Raining	
Richmond, N. 39° 46′, W. 70° 51′	30.28‡	769.4‡	.....	.....	39	3.9	100	E	.....	.....	3	.....	10	.....	.....	0	0	Mod'ate	.....	Overcast.....	
Rio Bravo, Brownsville, Texas	30.27	768.8	53	11.7	42	5.6	83	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Santee, Annapolis, Md.	30.15‡	765.8‡	.....	.....	31	— 0.6	....	NE	.....	.....	1	.....	10	....	.....	0	0	.....	.....	Overcast	
St. Louis, League Island, Pa	30.15	765.8	62	16.7	27	— 2.8	.....	NE	8	3.6	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Supply, N. 45° 53′, W. 11° 10′	30.15‡	765 8‡	.....	.....	55	12.8	93	SSW	.....	.....	4	.....	10	.....	SSW	.....	.....	Long	SW	Drizzling....	
Trenton Villafranca, France *	29.91‡	759.7‡	.....	.....	60	15.6	71	Calm	.....	.....	0	.....	1	.....	Calm	0	0	.....	.....	Fair	
Tuscarora, N. 7° 37′, W. 80° 02′	29.86‡	758.4‡	.....	.....	82	27.8	83	N	.....	.....	5	.....	2c;ks	.....	.....	0	0	Mod'ate	.....	Clear.....	
Vandalia, Off Holmes' Hole, Mass.	29.29‡	69.4‡	.....	.....	27	— 2.8	88	NNE	.....	.....	3	.....	2	.....	NNE	.....	.....	Smooth	.....	Clear.....	
Wabash, Boston, Mass.	30.35‡	770.9‡	.....	.....	28	— 2.2	.....	NW	1	0.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hostpital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 8° 33', W. 84° 2'		29.90*	759.4*	80	26.7	100	WNW			2		5		WNW		Small	W	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.90	759 4				SSE			1–4				ESE				Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 37° 20', E. 144° 28'		29.91†	759.7†	50	10.0	??	Var.			3–5		k;h'z		S		Chop	N	Raining	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch. N. 35° 14', W. 68° 33'		30.25	768.3	59.0	15.0	65	SSW			4		8		S	0	3	SSW	Cloudy	L. Jahns.
S. S. Leipzig, N. 41° 46' W. 46° 16'		30.01	762.2	45.5	7.5		NW			5		5		NW	Blank	9	NW	Squally	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper	Lower	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.17*	766.3*	29	— 1.7	89	NE			3		6		NE	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool		30.07†	763.8†	31	— 0.6	100	SSE			1		10		S	0			Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernia																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

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

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

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

Albert J. Myer

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

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 13, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

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

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.32	770.0	61.7	16.6	80	NE			4		2			0	0	Fair	
Nemours			30.34	770.7	61.3	16.3	71	ENE			1		2			0	0	Fair	Kesxuche.
Algiers			30.28	769.1	57.2	14.0	58	WNW			2		2			0.098	2.5	Fair	Tourilliere.
La Calle			30.23	767.8	55.8	13.2	64	NW			6		8			0.157	4.0	Very cloudy	Foufrede.
Tunis			30.11	764.7	55.4	13.0	70	NNW			8		5			0.504	12.8	Cloudy	Jacques.
Sfax			30.10	764.5															Gau.
Salda			30.24	768.0	51.8	11.0	68	W			2		0			0	0	Clear	Herbin.
Tebessa			30.15	765.9	41.7	5.4	66	W			4		10			0.142	3.6	Covered	Watrin.
Geriville			30.17	766.4	41.0	5.0	97	N			4		0			0	0	Clear	Brugniaux.
Laghouat			30.17	766.2	52.2	11.2	59	NNW			3		0			0	0	Clear	Bertrand.
Biskra			30.13	765.3	62.4	16.9	28	NNW			5		0			0	0	Clear	Chanvaux.

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Salda is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.81	757.1	30.39	771.9	33.6	0.9	78	Calm			0		10			0.051	1.3		Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.58	751.2	30.39	772.0	25.9	— 3.4	95	WSW			3		10			0.106	2.7		Dr. Wierzbiski
Eperies	29.34	745.2	30.27	768.8	31.5	— 0.3	87	NW			1		7cs			0	0		Julius Mikolik.
Gratz	29.11	739.8	30.45	773.4	27.3	— 2.6	89	SW			2		10			0	0		Andreas Rospini
Hermannstadt	28.78	731.1	30.30	769.7	28.6	— 1.9	100	Calm			0		10			0	0	Foggy	Prof. A. Gottschling.
Kremsmünster	28.98	736.2	30.41	772.5	23.7	— 4.6	82	WNW			1		10			0.217	5.5		Prof. C. Wagner.
Lemberg	28.21	742.0	30.25	768.4	32.4	0.2	89	SW			1		8			0.012	0.3		Dr. T. Stanecki.
Pola	30.07	763.7	30.19	766.7	46.0	7.8	58	ENE			7		3			0	0		I.R.Hydrographic Office.
Szathmar	29.82	757.4	30.31	769.9	33.8	1.0	92	E			3		10			0	0		Julius Csics, S. J.
Szegedin	29.99	761.8	30.29	769.4	32.4	0.2	96	Calm			0		10			0	0		Karl Stancel.
Trieste	29.12	765.1	30.23	767.7	44.1	6.7	83	ENE			5		0			0	0		P. Busin.
Vienna	29.69	754.1	30.45	773.4	32.0	0.0	71	WNW			3		9			0.067	1.7		I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.67	753.6	29.77	756.1	45	4.7		SSW	11	4.9			2			0.020	0.51	Blue sky	W. Boswell.
Ardrossan	29.82	757.4	29.84	757 9	40.4	7.2		WSW			5		7					D. clouds	George Carrick.
Armagh, Observatory			29.95	760.7	44.6	7.0		SW	13	5.8			8					Overcast	S. Call.
Bidston, (Liverpool Obs.)			30.00	762.0	47.8	8.8		SW	16	7.2			2					Blue sky	John Hartnup.
Bolton			30.02	762.5	41.0	5.0		SW	18.0	8.0			8					Misty	Thomas Mackereth.
Bradford, Yorkshire	29.59	751.6	29.98	761.5	45.3	7.4		W			1		0			0	0	Blue sky	J. McLandsborough.
Bridgetown, (Barbados)	29.95	760.7	29.98	761.5	80	26.7		NE			2		3					D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory			30.06	763.5	40.6	4.4		SW			2		10					Overcast	H. Todd. [O.
Cardington			30.07	763.8	41.4	5.2		W			1		10					Foggy	John McLaren.
Chatham, School M. E.	29.99	761.7	30.12	765.0	44.7	7.1		SW			2		9					Overcast	Lt. W. G. Morris, R.E.
Dartmoor	28.53	724.6	30.02	762.5	45.0	7.2		SW			6		10					Rain. & fog	Alexander Watt.
Donaghadee	29.87	758.7	29.91	759.7	45	7.2		SW			4		7					D. clouds	J. Mac Gowan.
Dover	30.11	764.8	30.14	765.5	41	5.0		WSW			5		10					Rain & fog	J. Costello.
Falmouth, Observatory	29.94	760.5	30.17	766.3	50.0	10.0		W			1		8					Overcast	The Staff.
Fort Napier, (Natal)	27.51	698.7	29.82	757.4	72.0	22.2		E			3		9					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.68	753 9	29.91	759.7	85	29.4		E?			0?		4					D. clouds	
Galway, Queen's College			29.89	759.2	50	10.0		SSW			4		2					Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.26	768.6	30.32	770.1	57.5	14.2		E			4		1					Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.63	752.6	29.84	757.9	42.0	5.6		SSW			4		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.03	762.8	30.04	763.0	39	3.9		WSW			3		8					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.94	760.5	30.12	765.0	45.9	7.7		SW			1		10					Overcast	The Staff, for G. B. Airy
Guernsey	29.97	761.2	30.19	766.8	50	10.0		SSW			3		10					Drizzling	Dr. S. E. Hoskins, F.R.S.
Helston	30.10	764.5	30.22	767.6	49	9.4		W			2		10n			0.25	6.3	Misty	M. P. Moyle.
Holyhead	29.98	761.5	30.03	762.8	46	7.8		SW			4		0					Blue sky	John Tilston.
Jersey	29.94	760.5	30.24	768.1	44.0	6 7		SW			3		10					Foggy	J. Fisher.
Kew, Observatory	30.08	764.0	30.11	764.8	44.2	6 8		SW	7	3.1			10					Gloomy	The Staff.
Kingstown	29.94	760.5	29.97	761.2	49	9.4		WSW			4		1					Blue sky	George Mitchell.
Leicester, Museum	29.77	756.1	30.03	762.8	45.1	7.3		SW			1		0					Blue sky	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.63	752.6	29.70	754.4	57	13.9		NW			1		6cs					Threatening	Sergt. Beckett, A. H. C.
Nairn	29.59	751.6	29.69	754.1	42	5.6		W			2		5					⅜ covered	W. D. Penny.
Nassau, (Bahamas)			30.07	763.8	68.2	20.1		NW			2		8			Blank	Blank	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.87	758.7	30.06	763.5	44.4	6.9		SSW			2		1k		W	0.356	9.04	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.53	750.0	30.06	763.5	42.8	6 0		WSW			3		9					Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.12	765.0	43	6.1		WSW			4		10					Drizzling	H. E. Bellamy.
Plymouth	30.07	763.8	30.14	765.5	48.3	9.1		WSW			2		7					D. clouds	John Merrifield.
Roche's Point	30.00	762.0	30.05	763.3	49	9.4		W			3		8					¾ covered	W. Kennedy.
Saint Ann's Head	29.93	760.2	30.10	764.5	47	8.3		WSW			1		6					Foggy	John C. Walker.
Sandwick Manse, (Orkneys)			29.61	752.1	40.6	4.7		SW	16	7.2			5					D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			30.13	765.3	53.0	11.7		ENE			2		10					Gloomy	Sergt. W. H. Lyne.
Sheffield	29.75	755.6	30.04	763.0	46.0	7.8		SW			1		5			0.02	0.5	D. clouds	W. F. Cooper.
Silloth Rectory	29.91	759.7	29.94	760.5	43.9	6.6	90	W			4		4			0.080	2.03	D. clouds	F. H. Redford.
Stonyhurst, Observatory	29.61	752.1	30.02	762.5	44.0	6.7		SW			2		9					Threatening	Rev. S. J. Perry.
Stratfield Turgiss	29.90	759.4	30.12	765.0	45.0	7.2		SW			1		10					Foggy	Rev. C. H. Griffin, F.M.S
Thurso	29.56	750.8	29.63	752.6	40	4.4		SSW			1		3					Blue sky	John Trotter.
Truro, Royal Institution			30.16	766.1	53	11.7		W			4		6					D. clouds	W. Newcombe.
Valencia, Observatory	29.99	761.7	30.01	762.2	50.0	10.0		S	22	9.8			5					D. clouds	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)			29.94	760.5	57.0	13.9	94	SE			3		10kn			0.03	0.8	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.85	758.2	45.0	7.2		W			4	0	0			0	0	Fine	Andrew Gibb.
Mauritius, Observatory	29.79	756.7	29.98	761.4	82.0	27.8	63	E	17.0	7.6		0	3		ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	30.15	765.8	30.24	768.1	59.1	15.1	76	SW	10	4.5			10			0	0	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.47	748 5	44	6.7		WSW			7		10			0.6	15.		J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series: 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series.

Vessels.

	Sea or swel. Height scale 0—9	Sea or swel. Direction from—		
Brig Catherine				Capt. Alex. Wilson.
Barque Commewyne				Capt. A. Buchan.
S. S. Gordon Castle				Capt. W. Waring.
Barque Margaret Smith				Capt. D. W. A. Quaile
Schooner Traveller				Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.23	666.2	29.95	760.7	64.8	18.2	78	NE	.....	.....	2	.....	2ks	.....	E	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.19	766.7	30.23	767.9	25.5	— 3.6	82	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
Fanöe	30.09	764.2	30.11	764.7	27.1	— 2.7	98	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vestervig	29.93	760.2	30.10	764.5	14.4	— 9.8	97	SE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	29.82	757.3	30.37	771 3	33.1	0.6	92	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Collignon, Director.
Amiens, Normal School	30.15	765.7	30.26	768.7	29.5	— 1.4	74	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.24	768.2	30.32	770.2	38.8	3.8	44	N	.....	.....	4	.....	0	.....	.....	0	0	Clear.....	M. Giraud, Director.
Bar-sur-Seine	29.85	758.3	30.46	773 7	30.7	— 0.7	64	S	.....	.....	1	.....	8kn	.....	NW	0	0	Very cloudy	C. Sallard, Director.
Beauvais, Normal School	30.04	763.0	30.34	770.7	34.3	1.3	89	S	.....	.....	1	.....	10	.....	SSW	0	0	Covered	..... Eugene Marie, Dir.
Besançon, Normal School	29.57	751.0	30.48	774.2	27.1	— 2.7	.....	S	.....	.....	2	.....	0	.....	.....	0.51	13.	Clear.....	A. Carre, Director.
Bourg-en-Bresse, N. School	29.61	752.2	30.53	775.4	28.9	— 1.7	78	W	.....	.....	1	.....	5cs	W	W	0	0	Cloudy.....	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.94	760.4	30.18	766.6	51.1	10.6	95	SW	.....	.....	2	.....	10	.....	SW	0.098	2.50	Rain & fog..	M. de Rermaur, Director.
Carcassonne, Normal School	29.99	761.8	30.43	772.9	41.0	5	66	SW	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	30.16	766.0	30.23	767.9	39.2	4	78	SSW	.....	.....	2	.....	10	.....	.....	0.32	8.	Covered.....	M. Lair, Director.
Chartres, Normal School	29.73	755.2	30.33	770.3	30.4	— 0.9	96	SSW	.....	.....	3	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	30.06	763.6	30.37	771.3	31.5	— 0.3	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	29.02	737.1	30.44	773.3	37.0	2.8	66	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Alluard, Director.
Commercy, Normal School	29.56	750.8	30.46	773.8	30.4	— 0.9	88	SW	.....	.....	1	.....	10kn	.....	SW	.....	.....	Covered	Dr. Coulot, Director.
Commune de Gréasque *	29.14	740.2	30.28	769.2	40.3	4.6	49	N	.....	.....	1	.....	5	.....	NW	0	0	½ Covered ..	M. King, Director.
Grenoble, Normal School	29.69	754.2	30.52	775.1	32.4	0.2	.....	ENE	.....	.....	1	2c	.....	E	.....	0	0	Slightly cl'dy	M. Ablard, Director.
La Roche-sur-Yon, N. School	30.15	765.8	30.37	771.5	38.1	3.4	83	S	.....	.....	1	.....	10	.....	.....	0.008	0.2	Light rain ...	Mouillot, Director.
Le Mans, Normal School	30.04	762.9	30.36	771.2	34.3	1.3	97	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.52	749.7	30.50	774.8	28.2	— 2.1	78	E	.....	.....	2	.....	2	.....	NNW	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	30.19	766.9	30.29	769.4	52.9	11.6	97	WSW	.....	.....	4	.....	.....	.....	SW	0.110	2.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.35	745.5	30.48	774.3	28.4	— 2	87	NE	.....	.....	3	.....	k	.....	SW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	30.09	764.2	30.30	769.5	41.7	5.4	54	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear.....	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.48	645.9	.....	.....	32.2	0.1	100	NW	.....	.....	2	.....	8	NW	.....	0	0	Almost cov.	Alluard, Director.
Rochefort, Naval Obs'y	30.38	771.7	30.41	772.5	41.7	5.4	100	WSW	.....	.....	1	.....	10	WSW	WSW	0	0	Covered.	Lt. Decante, Director.
Rouen, Normal School	30.21	767.3	30.30	769.5	36.3	2.4	91	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.22	767.6	30.15	768.4	43.2	6.2	94	SSE	.....	.....	1	.....	10	SSE	SSE	0	0	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.20	767.1	30.37	771.3	32.5	0.3	80	S	.....	.....	1	.....	10	.....	.....	0	0	Covered... ..	E. Rezor, Director.
Tarbes, Normal School	29.32	744.6	30.42	772.6	51.8	11	52	W	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.73	755.2	30.48	774.3	35.6	2	87	ESE	.....	.....	1	.....	2	.....	E	0	0	Slightly cl'dy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.6	29.97	761.3	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marches..
Lyons, Observatory	.....	.....	30.50	774.6	32.9	0.5	85	E	.....	.....	1	.....	4	.....	.....	0	0	Blue sky ...	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	25.06	636.6	30.38	771.6	42.4	5.8	50	NW	9.4	4.2	.....	.....	4	.....	SW	0.059	1.5	....	M. Cave.
Nice	.....	.....	30.22	767.6	55.0	12.8	50	W	.....	.....	2	.....	2	.....	.....	0	0	¼ covered...	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	30.06	763.5	.....	.....	32.4	0.2	96	S	.....	.....	3	.....	10	.....	.....	Inap.	Inap	Light rain...	Marié Davy, Director
Perpignan	30.21	767.2	30.31	769.9	55.0	12.8	16	NE	26.2	11.7	.....	.....	3	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit) H. T	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac
Pic du Midi, (Plantade) H. T	22 72	577.2	.....	.....	37.4	3.0	.....	Calm	.....	.....	0	.....	1	.....	.....	0	0	Clear	Gen'l de Tansouty.
Toulouse, Observatory	29.75	755.7	30.48	774.3	35.6	2.0	67	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	30.17	766.4	30.37	771.4	35.6	2.0	92	SE	.....	.....	1	.....	10	.....	.....	0	0	Light mist...	C. Marquet.
Versailles Observatory	.....	.....	30.33	770.4	33.1	0.6	.....	SW	.....	.....	1	.....	10	.....	.....	0.228	5.79	Covered.....	Dr. A. Bérigny, Director.
Zi-Ka-Wei, (near Shanghai)	30.19	766.7	30.21	767.3	36.1	2.3	94	SE	8.1	3.6	.....	.....	0	.....	.....	0	0	Clear.....	Marc Deslevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7: no distinction between amount of upper and lower clouds, and, in the official series, the amount by the scale 0 to 4: Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m., local time. The elevation of Clermont-Ferrand is 388 meters or 1,272.9 feet. Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.50	749.3	30.35	771.0	29.7	— 1.3	78	E			4		6	E		0.138	3.5	Snowing	Prof. Dr. Hoh.
Berlin	30.17	766.4	30.35	771.0	32.0	0.0	85	S			1		8			0.024	0.6		Prof. Arndt.
Breslau	29.86	758.5	30.40	772.2	25.7	— 3.5	86	W			1		10			0.164	4.17	Rainy	Royal University Obs'y
Carlsruhe	29.98	761.6	30.44	773.3	28.0	— 2.2	83	SW			1		10			0	0		Albert Sens.
Cassel	29.70	754.4	30.32	770.0	27.1	— 2.7	90	SSW			4		10	SW		0	0		Dr. H. Möhl.
Crefeld	30.08	764.0	30.24	768.1	30 6	— 0.8	93	S			4		10					Snowing	Director Lose.
Emden					30.9	— 0.6	100	S			2		10			0.087	2.2		Prof. Prestel.
Frankfort on the Main	30.06	763.5	30.44	773.3	28.8	— 1.8		SSW			1		10			0.256	6.5		Physical Society.
Friedrichshafen	28.95	735.4	30.49	774.4	27.0	— 2.8	64	N			2		10	N		0	0		M. Wilhelm.
Hamburg	30.20	767.1	30.28	769.0	30.2	— 1.0	94	SSW			2		10			0.008	0.2		Captain F. Hegemann
Kiel	30.22	767.5	30.23	767.9	27.7	— 2.4	97	S			1		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.23	767.9	30.32	770.1	24.8	— 4.0	86	E			2		8			0	0		Prof. E. Luther.
Köslin			30.26	768.6	29 1	— 1.6		SW			2		4			0.177	4.5		H. Müller.
Leipsic, Observatory	29.98	761.4	30.43	772.8	29.1	— 1.6	88	SW			1		10			0	0		Prof. Bruhns, Privy Counsellor.
Memel, Naval School	30.28	769.1	30.33	770.3	21.6	— 5.8	85	E			2		10s						Skalweit.
Neufahrwasser	30.30	769.6	30.32	770.0	29 3	— 1.5	82	SSE			1		10			0.008	0.2		A. Lothes.
Posen	30.11	764.7	30.42	772.6	21.9	— 5.6	97	NW			5		10			0.209	5.3	Snowing?	Dr. Magener.
Strassburg (in Alsace)	29.90	759.5	30.49	774.4	32.2	0.1	76	SW			1		10	NW		0.077	1.96		Imp. University Observatory.
Stuttgart	29.43	747.5	30.43	772.9	30.2	— 1.0	71	E			1		10			0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.87	733.4	30.49	774.4	28.2	— 2.1	83	W	1.1	0.5			10		W	0	0		Dr. Van Bebber.
Wustrow, Naval School	30.28	769.1	30.30	769.7	25.3	— 3.7	100	SSW			2		10 fog			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.60	751.9	29.99	761.7	63.9	17.7		SW			0.5							⅛ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	762.0	30.05	763.3	71.3	21.8	57	N					0			0	0	Blue sky	
Deesa	29.52	749.8	30.00	762.1	77.7	25.4	41	NW					2	SSW		0	0	D. clouds	
Bombay	29.88	758.9	29.92	759.9	76.3	24.6	78	NW	15.0	6.7			1	SSW		0	0	D. clouds	
Poonah	27.98	710.6	29.99	761.8	77.8	25.4		ESE					0			0	0	Blue sky	
Lahore	29.34	745.2	30.12	765.0	60.6	15.9	47	Calm	1.2	0.5			0			0	0	Blue sky	
Belgaum	27.39	695.7	29.93	760.3	76.4	24.7	59	Calm	0	0			6		ESE	0	0	D. clouds	
Roorkee	29.12	739.8	30.06	763.6	61.4	16.3	40	NW	2.2	1.0			0			0	0	Blue sky	
Agra	29.50	749.3	30.09	764.2	63.8	17.7	80	W					0			0	0		
Nagpur	28.93	734.9	29.98	761.4	82.3	27.9	29	Calm	1.9	0.8			0			0	0	Blue sky	
Lucknow	29.66	753.3	30.05	763.2	64.1	17.8	60	N	1.9	0.8			0			0	0	Blue sky	
Allahabad	29.72	754.8	30.04	763.0	65.1	18.4	81	Calm	1.8	0.8			0			0	0	Blue sky	
Patna	29.83	757.6	30.02	762.4	65.8	18.8	78	W	2.2	1.0			0			0	0	Blue sky	
Hazaribagh	27.96	710.2	30.04	762 9	65.0	18.3	53	NW	5.3	2.4			0			0	0	Blue sky	
Cuttack	29.90	759.5	29.98	761.6	74.0	23.3	57	N	1.1	0.5			0			0	0	Blue sky	
Calcutta (Alipore)	29.98	761.4	30.00	762.0	68.0	20.0	67	NNW	2.0	0.9			0			0	0	Blue sky	
Goalpara					70.7	21.5	57	Calm	4.5	2.0			0			0	0	Blue sky	
Chittagong	29.89	759.1	29.98	761.5	69.8	21.0	65	W	4.6	2.1			0			0	0		
Sibsagar	29.65	753.2	30.00	762.1	63.9	17.7	84	ENE	0.5	0.2			0			0	0	Blue sky	
Jubbulpore	28.66	728.0	30.06	763.4	72.8	22.7	62	Calm	2.7	1.2			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.84	757.9	30.27	768.8	44.1	6.7	53	SE	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.16	766.0	30.27	768 9	42.6	5.9	67	N	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.76	755.8	30.31	769.8	36.0	2.2	60	NE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schieparelli.
Moncalieri	29.37	749.5	30.32	770.0	39.0	3.9	67	N	1.3	0.6	.....	.....	1	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.32	719.4	30.31	769.9	41 5	5.3	32	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	30.03	762.8	30.23	767 8	48.2	9.0	39	N	8 7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.95	760 6	30.21	767.3	47.8	8.8	43	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	30.05	763.2	30.13	765.4	48.6	9.2	45	NNE	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.19	766.8	30.24	768.1	39.9	4.4	68	NW	19.9	8.9	.....	.....	10	NW	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.84	757.8	30.02	762.4	55.9	13.3	45	N	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. P S. Ferrari.
Lecce	29.67	753.7	29.93	760.3	52 9	11.6	88	SE	4.3	1.9	.....	.....	10	.....	.....	0.248	6.3	.....	Prof. C. De Giorgi.
Cagliari	29.69	754.0	29.88	759.0	52.7	11.5	64	NW	.....	.....	4	.....	4	N	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.95	735.2	29.85	758 2	50 7	10.4	76	NW	0.7	0.3	.....	.....	10	.....	.....	0.322	8.2	.....	Prof. D. Conti.
Palermo	29.62	752.4	29.88	758.9	51.8	11.0	75	NNE	24.2	10.8	.....	.....	10	.....	.....	1.752	44.5	.....	Prof. G. Cacciatore.
Syracuse	29.71	754.6	29.78	756.5	53.8	12.1	73	E	11.2	5.0	.....	.....	10	NE	.....	0.945	24.0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.08	761.6	52.2	11.2	59	NE	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.22	767 6	30.24	768.1	36.7	2.6	82	N	10.6	4.7	.....	.....	3ck;s	.....	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.05	763.3	30.26	768.6	37.0	2.8	90	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear.	S. Takehayashi.
Tokei (Yeddo) Observatory	30.01	762.2	30.09	764.3	33.6	0.9	87	NNE	5.8	2.6	.....	0	0	.....	.....	0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.13	638.3	30.31	769.8	44.6	7.0	57	SW	.....	.....	2	0	0	.....	.....	0	0	Very clear	Prof. L. Peres.
Leon	24.50	622.4	30.18	766.7	52.0	11.1	72	SSW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.6	30.30	769.6	45.7	7.6	63	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalts)	.....	.....	.....	.....	43.3	6.3	71	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.17	766.4	30.19	766.7	63.1	17.3	83	W	.....	.....	2	4	2	S	SE	0.013	0.3	½ cloudy	M. M. Cházaro.
San Luis Potosi	24.32	617.7	29.587	751 27	43.0	6.1	76	E	.....	.....	.....	0	0	.....	.....	0	0	Foggy	G. Barroeta, M D.
Vera-Cruz	30.16	766.1	30.19	766.8	64.4	18.0	80	NW	3.4	1.5	.....	.....	8s	.....	.....	0	0	Clear	Prof. J. Rossell.
Zacatecas	22.58	573.6	.....	.....	51.8	11	59	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.46	596.0	30.23	768.0	42.6	6.7	78	ESE	0 2	0.5	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.4	30.06	763.6	73.4	23.0	64	ENE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.09	764.5	30.23	767.8	61.5	16.4	.....	Calm	.....	.....	0	7n	3n	.....	.....	0.032	0.8	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1803 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	30.17	766.3	30.17	766.3	33.4	0.8	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	.....	.....	.....	.....	30.7	— 0.7	.....	S	.....	.....	4	.....	.....	.....	.....	0.075	1.9	.....	
Helder	30.04	763.1	30.04	763.1	34.2	1.2	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.236	6.0	.....	
Hellevoetsluis	30.14	765.5	30.14	765.5	32.5	0.3	94	SW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.11	764.9	30.16	766.1	31.6	— 0.2	94	SSW	.....	.....	5	.....	10	.....	.....	0.087	2.2	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.93	760.3	29.99	761.7	32.7	0.4	57	SSW	19.0	8.5	.....	.....	10	.....	.....	0.004	0.1	Light snow..	
Brönö	30.06	763.4	30.10	764.4	25.5	— 3.6	69	SE	34	15	.....	.....	4	.....	.....	0	0	.....	
Christiania	30.10	764.6	30.26	768.6	26.2	— 3.2	91	E	0	0	.....	.....	10	.....	.....	0	0	Light snow..	
Tromsö	30.14	765.5	30.18	766.6	22.3	— 5.4	73	SW	7	3	.....	.....	2	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.94	760.5	30.13	765.4	52.3	14.6	91	WNW	3.1	1.4	.....	.....	3	.....	.....	0.256	6.5	.....	Dr. J. A. Sampaio.
Campo Major	29.38	746.3	30.47	773.8	51.8	11.0	77	ENE	2.5	1.1	.....	.....	8	.....	.....	0	0	Solar corona	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.28	769.0	30.36	771.2	63.9	17.7	60	NW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	30.06	763.4	30.42	772.7	50.7	10.4	86	NE	13.7	6 1	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.14	765.5	30.21	767.3	58.6	14.8	91	WSW	18.6	8.3	.....	.....	10	.....	.....	0.303	7.7	Raining	

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

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'r
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd'r.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	30.08	768.9	77.0	25.0	.....	NE	.....	.....	4	.....	2	.....	.....	2	NE	D. clouds	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Quanza, Ajuda, Upper Guinea	.....	.....	29.86	758.4	84.6	29.2	.....	WSW	.....	.....	3	.....	3	.....	E	2	SW	D. clouds	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loando	.....	.....	29.79	756.6	83.3	28.5	.....	NW	.....	.....	3	.....	3	.....	Calm	0	.....	D. clouds	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Hong-Kong, China	.....	.....	30.28	769.0	61.2	16.2	.....	NE	.....	.....	1	*	0	.....	.....	1	.....	Blue sky	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.84	758.0	30.30	769.5	25.9	— 3.4	98	W	11	5	.....	.....	10n	.....	.....	.....	.....	Snowing	Astronomical Obs
Wilna	29.89	759.3	30.35	770.8	20.7	— 6.3	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	30.19	766.7	30.45	773.5	14.7	— 9.6	81	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	30.50	774.7	30.52	775.1	11.3	—11.5	97	E	11	5	.....	.....	8ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.60	751.8	30.28	769.1	23.5	— 4.7	100	NW	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.28	769.2	30.35	771.0	29.8	— 1.2	88	WNW	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.28	769.5	30.32	770.0	42.1	5.6	96	N	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Lagorio.
Moscow	30.02	762 6	30.63	778.0	16.9	— 8.4	88	SE	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.08	763.9	30.29	769.4	30.9	— 0.6	88	E	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.59	776.9	30.61	777.4	22.3	— 5.4	87	WSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	29.78	731.0	30.21	767.2	55.4	13.0	44	NW	18	8	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.54	775.8	30.46	773.7	25.5	— 3.6	78	NE	7	3	.....	.....	8s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.19	766.7	30.71	780.1	11.8	—11.2	85	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.45	773.4	30.76	781.3	14.7	— 9.6	97	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.51	749.6	30.37	771.5	9.9	—12.3	79	W	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.89	759.1	30.14	765.5	26.2	— 3.2	76	NE	16	7	.....	.....	10n	.....	.....	.....	.....	.....	
Tashkend	28.66	727.9	30.43	772.8	34.6	1.4	82	Calm	0	0	.....	.....	6	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.62	752.3	30.19	766.7	12.7	—10.7	89	SW	22	10	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Yeniseisk	29.69	754.1	30.41	772.3	0.0	—17.8	85	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.01	762.3	30.15	765.9	27.7	— 2.4	85	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.72	754.9	29.81	757.1	— 6.2	—21.2	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.19	766.7	30.29	769.4	53.6	12	48	WSW	1.7	0.78	.....	.....	2ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.35	770.8	30.40	772.2	57.9	14.4	67	S	2.5	1.11	.....	3	1	NW	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.42	696.5	.....	.....	44.1	6.7	84	N	1.7	0.75	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	28.16	715.3	.....	.....	48.0	8.9	74	SW	1.5	0.67	.....	3	0	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.24	768.2	30.39	772.0	64.8	18.2	48	SE	2.4	1.08	.....	0	0	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.44	747.7	30.36	770.9	51.6	10.9	95	S	6.3	2.8	.....	.....	10	.....	.....	0.020	0.5	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.05	763.3	30.12	765.0	71.1	21.7	82	N	11.2	5.0	.....	1c	2k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.80	757.1	29.86	758.4	80.6	27.2	80	NE	0	0	.....	2	0	S	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.27	768.8	30.37	771.4	56.3	13.5	76	NNE	3.7	1.7	.....	4	7	SW	N	0	0	.....	Capt. C. Pujazon, H. N. Dir.
San Juan de Porto Rico, W. I.	29.99	761.7	30.08	764.0	75.6	24.2	86	SE	0	0	.....	3k	2k	E	E	0.217	5.50	D. clouds	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.61	777.4	30.65	778.4	7.5	—13.6	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.45	773.4	30.50	774.7	11.5	—11.4	100	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	30.32	770.1	30.37	771.4	25.9	— 3.4	87	NE	.....	.....	4	.....	10	.....	.....	0.020	0.5	Snowing	
Stockholm	30.10	764.5	30.28	769.0	27.0	— 2.8	87	ESE	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	
Wisby	30.13	765.4	30.19	766.9	30.2	— 1.0	88	S	.....	.....	4	.....	10	.....	.....	0.008	0.2	.....	
Sub-Series.																			
Upsala	30.19	766.9	30.27	768.8	25.2	— 3.7	95	ESE	0	0	.....	.....	10	.....	.....	0.005	0.12	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.99	736.4	30.48	774.3	32.7	0.4	72	S	.....	.....	2	.....	5	.....	.....	0	0	Vapory	The Observatory.
Zurich	28.76	730.5	30.47	774.0	28.8	— 1.8	72	NW	.....	.....	1	.....	8	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +8.7 mm.; Thermometer, —1.0 cent.; Relative Humidity, +1 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	766.8	52.0	11.1	84	ENE	13	6.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.00	762.0	30.11	764.9	64.9	18.3	73	N	.....	.....	2	.....	4c	.....	.....	0	0	D, clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.62	752.3	29.94	760.5	21	— 6.1	.....	SW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29.97	761.2	30.04	763.0	4	—15.6	89	Calm	0	0	.....	8ck	2ks	SW	SW	0	0	Fair?	G. A. Blair.
Charlottetown, P. E. Island	30.00	762.0	30.04	763.0	14	—10.0	96	SW	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.69	754.1	29.91	759.7	6.0	—14.4	90	SW	.....	.....	2	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.68	753.9	29.73	755.1	39.1	3.9	100	Calm	.....	.....	.....	.....	10	.....	.....	0.20	5.1	Overcast	W. H. Bevis.
*Father Point, Quebec	29.69	759.2	29.91	759.7	16	— 8.9	81	S	5	2.2	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.07	763.8	— 4.5	—20.3	100	SE	1.0	4.5	.....	1cs	Haze	W	.....	0.040	1.02	Hazy	Prof. Harrison.
*Fort Garry Manitoba	29.27	743 4	30.25	768.3	—19	—28.3	100	N	6	2.7	.....	5k	5n	W	W	0.110	2.79	Cloudy	James Stewart.
Granton, Ontario	28.79	731.3	29.96	761.0	20.3	— 6.5	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.91	759.7	30.06	763.5	16	— 8.9	87	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.64	752.8	30.04	763.0	25.7	— 3.5	86	SW	.....	.....	1	10cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	29.98	761.5	30.01	762.2	13	—10.6	100	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.53	750.0	29.88	758.9	28	— 2.2	88	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	18.2	— 7.7	94	W	6	2.7	.....	4c	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	29.76	755.9	29.80	756.9	— 2.0	—16.2	93	N	.....	.....	3	.....	10n	.....	.....	Inap.	Inap.	Snowing	J. R. Nason.
*Montreal, Quebec	29.72	754.9	29.93	760.2	15	— 9.4	91	S	12	5.4	.....	5ck	2s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.08	738.6	29.80	756.9	24	— 4.4	94	S	21	9.4	.....	.....	10n	.....	SW	.....	.....	Light snow	Rev. R. Mosley.
Peterboro, Ontario	29.09	738.9	29.88	758.9	25.3	— 3.7	86	Calm	0	0	.....	0	0	.....	.....	.....	.....	Haze & sm'e	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	30.01	762.2	24	— 4.4	87	SW	11	4.9	.....	.....	Haze	.....	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	30.04	763.0	30.09	764.3	17.9	— 7.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.34	745.2	30.03	762.8	22	— 5.6	93	SW	.....	.....	.....	.....	10n	.....	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.62	752.3	29.97	761.2	15	— 9.4	100	W	.....	.....	1	.....	10n	.....	W	0.20	5.1	Light snow	Capt. Ashe, R. N
*Rockliffe, Ontario	29.29	744.0	29.77	756.1	18	— 7.8	98	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.97	761.2	30.02	762.5	23	— 5.0	88	W	.....	.....	1	5k	2ks	W	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.88	758.0	30.05	763.3	20	— 6.7	86	W	.....	.....	1	0	7k	.....	.....	0.05	1.3	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.85	758.2	25	— 3.9	89	SW	17	7.6	.....	.....	10s	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.02	737.1	29.84	757.9	23	— 5.0	81	Calm	0	0	.....	.....	10n	.....	W	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.57	725.7	29.93	760.2	19.3	— 7.1	94	SW	12	5.4	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M.A
*Sydney, C. B	30.04	763.0	30.09	764.3	16	— 8.9	90	SW	4	1.8	.....	2cs	0	.....	.....	0.02	0.5	Clear	T. C. Hill.
*Toronto, Ontario	29.53	750 0	29.93	760.2	26	— 3.3	88	SW	24	10.7	.....	.....	10n	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.99	761.7	30.09	764.3	16.0	— 8.9	83	W	0	0	.....	7ck	0	Calm	.....	0	0	Fair	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	12.5	—10.8	100	S	.....	.....	.....	1k	3s	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.82	757.4	30.07	763.8	— 1	—18.3	100	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
Alpena, Michigan	29.11	739.4	29.78	756.4	24	— 4.4	74	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Atlanta, Georgia	29.01	736.8	30.21	767.3	37	2.8	90	NW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Atlantic City, New Jersey	30.07	763.8	30.08	764.0	29	— 1.7	67	NW	2	0.9	.....	0	8ks	.....	Calm	0.12	3.0	Cloudy	
Augusta, Georgia	30.02	762.5	30.21	767.3	34	1.1	100	NW	1	0.4	.....	2cs	Fog	Calm	Calm	0.01	0.3	Foggy	
Baltimore, Maryland	30.09	764.3	30.14	765.5	34	1.1	90	N	2	0.9	.....	.....	10s;fg	.....	Calm	0.02	0.5	Foggy	
Barnegat, New Jersey	30.06	763.5	30.08	764.0	29	— 1.7	78	N	5	2.2	.....	5k	5s	N	N	0	0	Cloudy	
Bismarck, Dakota	28.05	712.5	29.91	759.7	—11	—23.9	68	E	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boerne, Texas	28.66	728.0	30.03	762.8	35	1.7	80	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.17	690.1	30.13	765.3	20	— 6.7	85	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Clear	
Boston, Massachusetts	29.90	759.4	30.07	763.8	21.0	— 6.1	71	NW	4	1.8	.....	10cs	Fog	SW	Calm	0	0	Cloudy	
Brackettville, Texas	28.98	736.1	30.03	762.8	50	10.0	79	SE	2	0.9	.....	8cs	0	SE	.....	0	0	Cloudy	
Breckenridge, Minnesota	29.00	736.6	30.14	765.5	—12	—24.4	100	N	6	2.7	.....	8k	0	NW	.....	0	0	Fair	
Brownsville, Texas	30.11	764.8	30.18	766.6	49	9.4	93	E	4	1.8	.....	.....	Fog	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.22	742.2	29.95	760.7	25	— 3.9	87	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Foggy	
Burkes, Arizona	.....	.....	.....	.....	38	3.3	31	W	.....	.....	1	5c	.....	E	.....	0	0	Cloudy	
Burlington, Vermont	29.69	754.1	30.00	762.0	13.5	—10.3	82	S	6	2.7	.....	3c;k	0	Calm;S	.....	0	0	Fair	
Cairo, Illinois	29.80	756.9	30.21	767.3	32	0.0	79	S	7	3.1	.....	.....	10s	.....	S	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.28	642.1	30.08	764.0	49	9.4	51	NE	7	3.1	.....	10cs	0	Calm	.....	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	22	— 5.6	45	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.45	697.2	30.02	762.5	27	— 2.8	77	E	.....	.....	4	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	37	2.8	100	N	18	8.0	.....	.....	10s	.....	Calm	2.68	68.1	Cloudy	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	34	1.1	90	N	14	6.3	.....	.....	10s	.....	NE	2.06	52.3	Cloudy	
Cape Lookout, N. Carolina	30.11	764.8	30.13	765.3	39	3.9	100	N	16	7.2	.....	.....	10s	.....	N	1.20	30.5	Cloudy	
Cape May, New Jersey	30.08	764.0	30.11	764.8	29	— 1.7	89	NW	10	4.5	.....	.....	10s	.....	Calm	0.63	16.0	Cloudy	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Charleston, South Carolina	30.14	765.5	30.21	767.3	40	4.4	82	N	6	2.7	.....	0	0	.....	.....	0.43	10.9	Clear	
Cheyenne, Wyoming	23.85	605.8	29.79	756.7	26	— 3.3	52	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.24	742.7	29.98	761.5	20	— 6.7	70	SW	7	3.1	.....	0	Haze	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.50	749.3	30.18	766.6	31	— 0.6	79	S	7	3.1	.....	.....	10s	.....	SW	0	0	Threatening	
Cleveland, Ohio	29.33	745.0	30.10	764.5	22	— 5.6	72	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Coleman City, Texas	28.27	718.0	30.02	762.5	33	0.6	79	Calm	0	0	.....	8c	0	W	.....	0	0	Fair	
Columbus, Ohio	29.26	743.2	30.15	765.8	25	— 3.9	87	SW	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Corpus Christi, Texas	28.14	714.7	29.87	758.7	37	2.8	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.68	753.9	30.17	766.3	31	— 0.6	79	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.39	746.5	29.99	761.7	18	— 7.8	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.14	638.5	.....	.....	12	—11.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.86	733.0	30.10	764.5	52	11.1	79	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.27	743.4	30.11	764.8	31	— 0.6	89	SE	8	3.6	.....	5cs	0	Calm	.....	0	0	Clear	
Denver, Colorado	24.62	625.3	29.84	757.9	8	—13.3	55	SE	8	3.6	.....	2ck	0	NW	.....	0	0	Fair	
Des Moines, Iowa	29.05	737.9	30.00	762.0	13	—10.6	81	N	6	2.7	.....	0	2s	.....	N	0	0	Fair	
Detroit, Michigan	29.29	744.0	30.00	762.0	18	— 7.8	84	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.28	692.9	29.68	753.9	21	— 6.1	86	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dubuque, Iowa	29.21	741.9	29.97	761.2	15	— 9.4	82	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.26	743.2	30.00	762.0	5	—15.0	75	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.33	745.0	30.11	764.8	38	3.3	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.95	760.7	30.02	762.5	25	— 3.9	81	Calm	0	0	.....	8c;k	0	NW; SW	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	33	0.6	89	SE	.....	.....	1	.....	10ks	.....	SE	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	45	7.2	60	W	5	2.2	.....	0	5s	.....	W	0	0	Cloudy	
Erie, Pennsylvania	29.26	743.2	30.00	762.0	27	— 2.8	88	SW	13	5.8	.....	.....	10s	.....	Calm	0	0	Fair	
Escanaba, Michigan	29.17	740.9	29.86	758.4	18	— 7.8	84	W	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Florence, Arizona	28.50	723.8	30.10	764.5	42	5.6	74	E	.....	.....	2	.....	10s	.....	SW	0	0	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.63	752.6	20	— 6.7	55	Calm	0	0	.....	2c	0	SW	.....	0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	36	2.2	45	Calm	6	0	.....	5c	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.46	748.3	30.03	762.8	26	— 3.3	88	S	7	3.1	.....	5ck	2s	NW	S	0.02	0.5	Fair	
Fort Graham, Texas	28.74	730.0	30.08	764.0	28	— 2.2	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.81	706.4	29.76	755.9	46	7.8	54	SW	11	4.9	.....	2c	0	SE	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.94	760.5	18	— 7.8	100	SE	3	1.3	.....	2c	Fog	Calm	Calm	0	0	Foggy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.34	719.8	29.94	760.5	46	7.8	54	S	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.18	766.6	30.22	767.6	45	7.2	92	SE	4	1.8	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Graham, Texas	28.89	733.8	29.99	761.7	30	— 1.1	89	Calm	0	0	.....	0	2s	.....	W	0	0	Fair	
Grand Haven, Michigan	29.24	742.7	29.91	759.7	30	— 1.1	78	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.26	743.2	30.10	764.5	18	— 7.8	84	S	4	1.8	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
Indianola, Texas	30.19	766.8	30.22	767.6	43	6.1	92	S	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.84	732.5	30.01	762.2	35	1.7	70	W	8	3.6	.....	2cs	0	SW	.....	0	0	Fair	
Jacksonville, Florida	30.18	766.6	30.20	767.1	42	5.6	83	NW	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear	
Keokuk, Iowa	29.30	744.2	29.95	760.7	20	— 6.7	77	SW	4	1.8	.....	10c;ck	0	W	.....	0	0	Cloudy	
Key West, Florida	30.11	764.8	30.14	765.5	68	17.2	78	N	13	5.8	.....	5k	0	N	.....	0	0	Fair	
Kittyhawk North Carolina	30.07	763.8	30.10	764.5	36	2.2	100	NE	26	11.6	.....	.....	10n	.....	NE	2.78	70.6	Light rain	
Knoxville, Tennessee	29.19	741.4	30.25	768.3	35	1.7	100	W	1	0.4	.....	.....	10s	.....	W	0.36	9.1	Threatening	
La Crosse, Wisconsin	29.18	741.2	29.96	761.0	21	— 6.1	71	W	6	2.7	.....	10k	0	W	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	30	— 1.1	89	NE	1	0.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Laredo, Texas	29.71	754.6	30.06	763.5	47	8.3	100	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Leavenworth, Kansas	29.11	739.4	30.00	762.0	22	— 5.6	86	S	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.73	755.1	30.08	764.0	41.0	5.0	82	NE	5	2.2	.....	5ck	0	SW	.....	0	0	Fair	
Louisville, Kentucky	29.56	750.8	30.15	765.8	32	0.0	79	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Lynchburg, Virginia	29.43	747.5	30.15	765.8	31	— 0.6	79	W	2	0.9	.....	.....	Haze	.....	.....	0.84	21.3	Hazy	
Madison, Wisconsin	28.90	734.0	29.93	760.2	21	— 6.1	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.06	738.1	29.79	756.7	26	— 3.3	75	NW	20	8.9	.....	.....	10ks	.....	N	0	0	Cloudy	
Mason, Texas	28.44	722.4	30.28	769.1	35	1.7	70	Calm	0	0	.....	Haze	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.90	759.4	30.24	768.1	30	— 1.1	89	S	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Milwaukee, Wisconsin	29.16	740.7	29.93	760.2	21	— 6.1	86	W	13	5.8	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.23	767.8	30.28	769.1	39.5	4.2	96	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	30.04	763.0	30.28	769.1	40	4.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.03	737.3	30.11	764.8	38	3.3	81	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Mt. Washington, N. H.	23.49	596.6	29.85	758.2	8	—13.3	78	W	21	9.4	.....	2s	0	Calm	.....	0	0	Clear	
Nashville, Tennessee	29.67	753.6	30.24	768.1	32	0.0	89	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	
New Haven, Connecticut	29.97	761.2	30.09	764.3	24	— 4.4	74	NE	5	2.2	.....	5ck	5s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	30.01	762.2	30.06	763.5	27	— 2.8	76	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
New Orleans, Louisiana	30.18	766.6	30.24	768.1	41	5.0	91	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.99	761.7	30.04	763.0	28	— 2.2	77	N	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
New York, New York	29.92	760.0	30.10	764.5	30	— 1.1	89	NW	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.07	763.8	30.13	765.3	33	0.6	89	N	3	1.3	.....	.....	Fog	.....	.....	1.85	47.0	Foggy	
North Platte, Nebraska	26.98	685.3	29.72	754.9	14	—10.0	73	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.84	757.9	29.88	758.9	37.2	2.9	90	S	8	3.6	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount.- Up'er 0—10	CLOUDS. Amount.- Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Omaha, Nebraska	28.80	731.5	29.97	761.2	16	— 8.9	83	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.67	753.6	30.01	762.2	25	— 3.9	87	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	29.22	742.2	30.19	766.8	—17	—27.2	100	NW	6	2.7	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Philadelphia, Pa	30.05	763.3	30.1[illegible]	764.8	31	— 0.6	89	NW	.....	.....	1	.....	10s;fg	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.88	733.5	30.76	781.3	38	3.3	72	Ca lm	.....	.....	0	10c	0	SW	.....	0	0	Cloudy	
Pike's Peak, Colorado	17.35	440.7	29.56	750.8	2	—16.7	44	SW	38	17.0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	23.96	608.6	29.73	755.1	21.5	— 5.8	57	NW	2	0.9	.....	2ck	5s	SW	W	0	0	Fair	
Pittsburg, Pennsylvania	29.27	743.4	30.12	765.0	29	— 1.7	89	SW	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.26	743.2	29.97	761.2	16	— 8.9	83	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.98	761.5	30.04	763.0	20	— 6.7	70	W	4	1.8	.....	8s	Fog	S	.....	0	0	Cloudy	
Portland, Oregon	29.95	760.7	30.06	763.5	40	4.4	87	S	9	4.0	.....	.....	10n	.....	S	0.04	1.0	Light snow.	
Prescott, Arizona	24.65	626.1	30.01	762.2	20	— 6.7	56	S	1	0.4	.....	2c	0	Calm	.....	0	0	Clear	
Pilot Point, Texas	29.25	742.9	30.12	765.0	29	— 1.7	68	SE	8	3.6	.....	5k	5s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	50	10.0	79	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.83	757.7	30.21	767.3	32	0.0	79	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.00	762.0	30.22	767.6	45	7.2	92	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Rochester, New York	29.30	744.2	29.95	760.7	24	— 4.4	87	SW	6	2.7	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.57	751.1	30.16	766.1	38.5	3.6	86	SW	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sacramento, California	30.10	764.5	30.19	766.8	32.6	0.3	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.09	764.3	23	— 5.0	86	S	11	4.9	.....	0	2s	.....	Calm	0	0	Fair	
St. Marks, Florida	30.20	767.1	30.21	767.3	39	3.9	91	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.07	738.4	29.96	761.0	11	—11.7	79	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	29	— 1.7	89	W	3	1.3	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
San Antonio, Texas	29.49	749.0	30.11	764.8	36	2.2	90	S	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
San Diego, California	30.04	763.0	30.11	764.8	46.3	7.9	80	NE	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Sandusky, Ohio	29.37	746.0	30.08	764.0	23	— 5.6	86	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.05	763.3	30.08	764.0	29	— 1.7	67	NE	6	2.7	.....	2k	2s	NW	Calm	0	0	Fair	
San Francisco, California	30.13	765.3	30.20	767.1	42	5.6	91	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.22	589.8	29.76	755.9	24	— 4.4	61	NE	2	0.9	.....	8ck	0	SE	.....	0	0	Fair	
Savannah, Georgia	30.11	764.8	30.21	767.3	42	5.6	83	N	4	1.8	.....	5cs	Fog	Calm	Calm	0.15	3.8	Fair	
Shreveport, Louisiana	30.00	762.0	30.24	768.1	32	0.0	100	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico	24.32	617.7	30.76	781.3	25	— 3.9	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Smithville, North Carolina	30.14	765.5	30.18	766.6	39	3.9	91	N	4	1.8	.....	.....	10s	.....	Calm	0.71	18.0	Cloudy	
Springfield, Massachusetts	29.95	760.7	30.09	764.3	15	— 9.4	48	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy	
Stockton, Texas	27.00	685.8	30.00	762.0	33	0.6	89	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.01	762.2	30.06	763.5	27	— 2.8	76	NW	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy	
Toledo, Ohio,	29.32	744.7	30.04	763.0	20	— 6.7	85	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	44	6.7	59	S	2	0.9	.....	0	8s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	30.18	766.6	30.21	767.3	41	5.0	91	NW	9	4.0	.....	0	2s	.....	NW	0.34	8.6	Fair	
Umatilla, Oregon	29.61	752.1	30.11	764.8	39.0	3.9	73	SW	12	5.4	.....	....	10s	.....	SW	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	33	0.6	79	SW	.....	.....	1	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.24	742 7	30.11	764.8	37	2.8	31	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.04	763.0	30.32	770.1	36	2.2	80	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Virginia City, Montana	23.99	609.3	29.47	748.5	18	— 7.8	68	SW	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Visalia, California	29.78	756.4	30.17	766.3	34	1.1	100	NW	3	1.3	.....	.....	Fog	.....	Calm	Inap.	Inap.	Dense fog	
Washington, D. C	30.02	762.5	30.14	765.5	27	— 2.8	88	NW	5	2.2	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	28	— 2.2	77	N	.....	.....	1	5c	0	SW	.....	0	0	Fair	
Wilmington, N. Carolina	30.07	763.8	30.15	765.8	38	3.3	91	N	6	2.7	.....	.....	10s	.....	N	0.45	11.4	Cloudy	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	— 8	—22.2	100	NE	5	2.2	.....	0	0	.....	.....	0.05	1.3	Clear	
Wood's Holl, Mass	29.99	761.7	30.03	762.8	30	— 1.1	78	N	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.71	729.2	30.12	765.0	8	—13.3	66	N	1	0.4	.....	8cs	0	W	.....	0	0	Cloudy	
Yuma, Arizona	29.88	733.5	30.06	763.5	36	2.2	61	NE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
Fayettville, Ark	28.38	720.8	29.84	757.9	32	0.0	79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.08	764.0	30.10	764.5	72	22.2	75	NE	7.2	3.2	.....	0	3ks	.....	NE	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.17	766.3	30.18	766.6	76	24.4	86	Calm	0	0	.....	5c	2s	NE	S	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.87	758.7	29.95	760.7	77	25.0	.....	NE	8	3.6	.....	.....	.....	.....	.....	0	0	Fair	F. M Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	78	25.6	91	NE	.....	.....	3	3c	5k	E	.....	0.840	21.34	Rainy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.03	762.8	30.08	764.0	—35.0	—37.2	.....	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,533 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,789 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,022 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft,. or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson. 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the baron etric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
NavyYard,MareIsland,Cal.	29.85	758.2	36	2.2	34	1.1	90	SE	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.28	769.1	44	6.7	44	6.7	84	N	1	0.4	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
NavyYard,Portsmouth,N.H	30.30	769.6	51	10.6	17	— 8.3	83	SW	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan *	30.06‡	763.5‡	.....	.....	37.5	3.1	76	Calm	.....	.....	.....	0	.....	.....	.....	0	0	.....	.....	Clear.	
Alliance, Smyrna, Turkey	30.10‡	764.5‡	.....	.....	64	17.8	62	SSE	.....	.....	0–1	.....	9	.....	S;E	.....	.....	.....	.....	Pleasant.....	
Ashuelot. N. 13° 43′, E. 100° 29′	30.02	762.5	78	25.6	77	25.0	69	NW	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Hazy...	
Canonicus, New Orleans, La	30.12	765.0	38	3.3	41	5.0	91	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear...	
Colorado, New York, N. Y.	30.05	763.3	28	— 2.2	28	— 2.2	100	N	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constitution, Havre, France	30.17‡	766.3‡	.....	.....	42	5.6	100	SSW	.....	.....	4	.....	10	.....	Calm	.....	.....	.....	.....	Misty.....	
Despatch, Constantinople, Turkey	30.22‡	767.6‡	.....	.....	54	12.2	87	NE	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.	30.25	768.3	75	23.9	37	2.8	81	NNW	6	2.7	.....	.....	10	.....	NNW	0.2	5.	.....	.....	Cloudy.....	
Gettysburg, Villafranca, France	30.09‡	764.3‡	.....	.....	67	19.4	79	SW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	D. clouds.....	
Hartford, Montevideo, Uruguay	29.96	761.0	72	22.2	72	22.2	71	N	4.0	1.8	.....	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Lackawana, Panama	29.69‡	754.1‡	.....	.....	77	25.0	91	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.	29.98†	761.5†	..	.....	26	— 3.3	75	SSW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan *	30.06‡	763.5‡	.....	.....	38	3 3	81	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.	30.30†	769.6†	.....	.....	44	6.7	92	NNW	10	4.5	.....	.....	10?	.....	NNW	0.18	4.6	.....	.....	Clear?.....	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	66	18.9	89	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.13	765.3	84	1.1	27	— 2.8	100	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	34	1.1	90	W	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama	29.88‡	758.9‡	.....	.....	80	26.7	91	NW	6.0	2.7	.....	.....	2	.....	.....	0	0	Smooth	NW	Fair.....	
Powhatan, Norfolk, Va.	30.13	765.3	40	4.4	40	4.4	91	N	4.0	1.8	.....	.....	10	.....	Calm	.....	.....	.....	.....	Overcast.....	
Quinnebaug, 36° 36′, W. 72° 48′	30.53‡	775.4‡	.....	.....	54	12.2	80	N	.....	.....	5	.....	10	.....	NNE	.....	.....	Long mod'ate	NE	Cloudy	
Richmond, N. 37° 45′, W. 70° 33′.	29.88‡	758.9‡	.....	.....	56	13.3	87	NE	.....	.....	6	.....	8	.....	NE	0	0	Mod'ate	WNW	Fair...	
Rio Bravo, Brownsville, Texas	30.08	764.0	57	13.9	60	10.0	93	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md.	30.09‡	764.3‡	.....	.....	30	— 1.1	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
St. Louis, League Island, Pa	30.04	763.0	66	18.9	29	— 1.7	.....	NW	4	1.8	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy	
Supply, N. 46° 14′, W. 11° 39′	30.21‡	767.3‡	.....	.....	55	12.8	93	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Smooth	.....	Foggy	
Trenton Villafranca, France *	30.16‡	766.1‡	.....	.....	55	12.8	66	Calm	.....	.....	0	.....	6	.....	Calm	0	0	.....	.....	Cloudy.....	
Tuscarora. N. 8° 40′, W. 79° 50′	29.86‡	758.4‡	.....	.....	79	26.1	82	NNW	.....	.....	3	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Vandalia, Off Boston, Mass	30.05	763.3‡	.....	.....	26	— 3.3	75	N	.....	.....	2	.....	8	.....	N	.....	.....	Smooth	.....	Cloudy.....	
Wabash, Boston, Mass	30.10‡	764.5‡	.....	..	30	— 1.1	.....	NW	2	0.9	.....	.....	2	.....	.....	.....	.....	.....	.....	Hazy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Anerold Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hostpital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 11° 36', W. 88° 23'		29.98*	761.5*	80	26.7	87	NNE			4		0				Mod'ate	NNE	Blue sky	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada, N. 17° 10', W. 101° 06'		30.15†	765.8†	82	27.8	100	E			2		c		Calm	0	Smooth		Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		30.07	763.8				W			1–2		0						Fine	R. C. Ghest, 1st Officer

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

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 39° 16', E. 149° 28'		29.87†	758.7†	48	8.9	??	Var.			9–6		ck		SE	Blank	Chop	NW	Squally	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch. N. 36° 46', W. 63° 1'		29.75	755.6	60.0	15.6	94	SE			5		10		S		3	S	Rainy	L. Jahns.
S. S. Leipzig, N. 44° 23' W. 39° 7'		29.91	759.7	43.2	6.2		NW			5		5		NW	Blank	9	NW	Squally	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour:	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.	.....	29.96*	761.0*	32	0.0	79	W	.....	.....	4	.....	8	.....	WNW	0	.....	.....	Cloudy	Captain Sargent.
S. S. Ohio, Liverpool	.....	30.03†	762.8†	48	8.9	??	SW	.....	.....	2	.....	0	.....	SW	Blank	.....	.....	Clear	Captain Morrison.
S. S. Pennsylvania, Capt. Harris	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

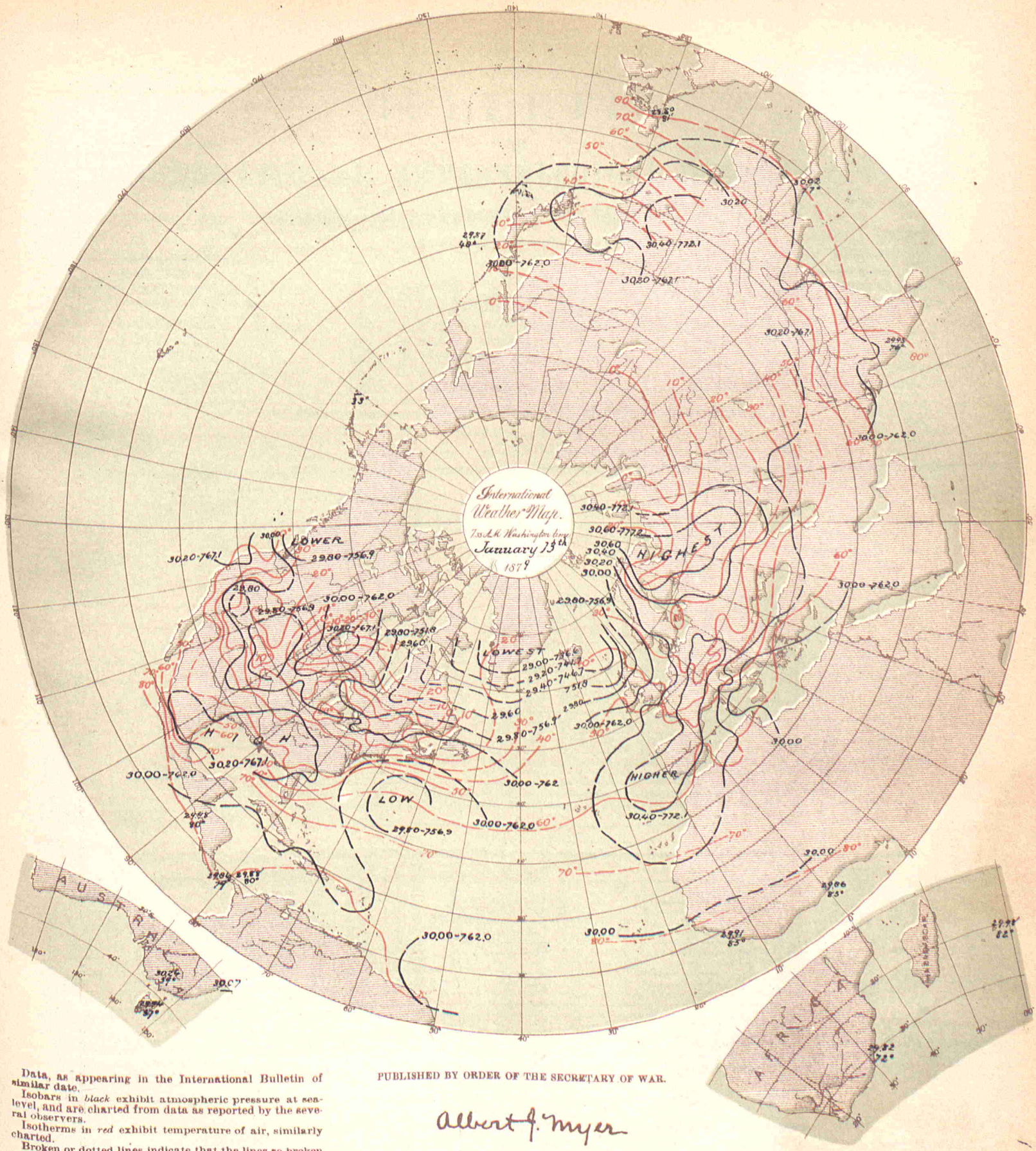
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

Brig. Gen. (Bvt. Assq[t].) Chief Signal Officer. U. S. A.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO., 330 DEVONSHIRE ST., BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 14, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.32	770.1	62.2	16.8	89	NE	.....	.....	4	.....	1	.....	.....	0	0	Very fair.	
Nemours	.....	.....	30.32	770.0	59.7	15.4	81	ENE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.22	767.6	56.5	13.6	68	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	Tourillere.
La Calle	.....	.....	30.26	768.6	57.6	14.2	72	NW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.21	767.3	57.0	13.9	67	NNW	.....	.....	6	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.24	768.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.21	767.2	58.6	14.8	44	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.18	766.5	46.0	7.8	51	W	.....	.....	2	.....	5	.....	.....	0.008	0.2	Cloudy	Watrin.
Geriville	.....	.....	30.16	766.0	50.7	10.4	100	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.17	766.3	56.5	13.6	43	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.17	766.2	64.2	17.9	29	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.69	754.0	30.27	768.8	31.6	— 0.2	81	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Ivan Stoair.
Cracow, I. R. Observatory	29.52	749.8	30.34	770.7	24.3	— 4.3	93	SSW	.....	.....	1	.....	10	.....	.....	0.020	0.5	.....	Dr. Wierzbiski
Eperies	29.28	743.8	30.22	767.6	26.2	— 3.2	78	N	.....	.....	1	.....	10s	.....	.....	0.419	10.65	.....	Julius Mikolik.
Gratz	28.97	735.8	30.29	769.3	31.3	— 0.4	75	E	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini
Hermannstadt	28.71	729.3	30.23	767.8	29.8	— 1.2	87	NW	.....	.....	2	.....	10	.....	.....	0.209	5.30	.....	Prof. A. Gottschling.
Kremsmünster	28.87	733.3	30.30	769.5	29.7	— 1.3	91	WNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.14	740.1	30.19	766.7	27.3	— 2.6	94	S	.....	.....	1	.....	10	.....	.....	0.315	8.0	.....	Dr. T. Stanecki.
Pola	30.08	764.0	30.19	766.9	46.0	7.8	48	NNW	.....	.....	1	.....	1	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.77	756.2	30.27	768.8	26.1	— 3.3	96	S	.....	.....	2	.....	10	.....	.....	0.508	12.9	.....	Julius Csics, S. J.
Szegedin	29.97	761.1	30.26	768.7	30.9	— 0.6	88	Calm	.....	.....	0	.....	10	.....	.....	0.018	0.45	.....	Karl Stancel.
Trieste	30.12	765.0	30.22	767.6	43.2	6.2	74	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.55	750.6	30.31	769.8	32.0	0.0	63	WNW	.....	.....	1	.....	10	.....	.....	0.079	2.0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.51	749.5	29.61	752.1	40.5	4.7		S	26	11.6			10			0.370	9.40	Raining	W. Boswell.
Ardrossan	29.49	749.0	29.51	749.5	46	7.8		SE			4		8					Overcast	George Carrick.
Armagh, Observatory			29.51	749.5	48.1	8.9		S	18	8.0			4					D. clouds	S. Call.
Bidston, (Liverpool Obs.)			29.66	753.4	45.6	7.5		SSE	15	6.7			9					Overcast	John Hartnup.
Felton			29.72	754.9	42.9	6.1		S	18.0	8.0			10					Overcast	Thomas Mackereth.
Bradford, Yorkshire	29.30	744.2	29.69	754.1	43.8	6.6		SE			1		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	80	26.7		NE			2		3					D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory			29.88	758.9	42.0	5.6		S			2		10					Raining	H. Todd. [C.
Cardington			29.80	756.9	44.0	6.7		S			1		10					Rain & fog	John McLaren.
Chatham, School M. E.	29.84	757.9	29.97	761.2	43.2	6.2		SW			3		10					Drizzling	Lt. W. G. Morris, R.E.
Dartmoor	28.27	718.0	29.74	755.4	47.0	8.3		SW			4		10					Rain & fog	Alexander Watt.
Donaghadee	29.49	749.0	29.54	750.3	46	7.8		SW			5		8					D. clouds	J. Mac Gowan.
Dover	29.96	761.0	29.99	761.7	41	5.0		SSW			4		10					Rain & fog	J. Costello.
Falmouth, Observatory	29.54	750.3	29.77	756.1	51.2	10.7		W			4		10					Overcast	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.93	760.2	72.5	22.5		E			2		9					Overcast	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.63	752.6	29.86	758.4	83	28.3		Calm			0		5					D. clouds	
Galway, Queen's College			29.45	748.0	47	8.3		SSW			3		7					D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.21	767.3	30.27	768.8	58.4	14.7		E			3		3					Blue sky	Capt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.52	744.7	29.52	749.8	45.3	7.4		SSE			4		10					Threatning	D. G. Maclean.
Great Yarmouth	29.96	761.0	29.96	761.0	39	3.9		S			4		8					Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.74	755.4	29.92	760.0	44.3	6.8		S			2		10					Raining	The Staff, for G. B. Airy
Guernsey	29.69	754.1	29.92	760.0	48.5	9.2		SE			5		10					Raining	Dr. S. E. Hoskins, F.R.S.
Helston	29.73	755.1	29.85	758.2	50	10.0		SW			4		10n			0.20	5.1	Raining	M. P. Moyle.
Holyhead	29.60	751.8	29.65	753.1	48	8.8		SSW			4		10					Misty	John Tilston.
Jersey	29.67	753.6	29.97	761.2	45.4	7.4		S			4		10					Raining	J. Fisher.
Kew, Observatory	29.87	758.7	29.91	759.7	46.0	7.2		S	18	8.0			10					Raining	The Staff.
Kingstown	29.55	750.6	29.58	751.3	49	9.4		SSW			1		9					Overcast	George Mitchell.
Leicester, Museum	29.54	750.3	29.79	756.7	44.7	7.1		S			3		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.89	759.2	29.96	761.0	59	15.0		NE			2		4cs					Threatening	Sergt. Beckett, A. H. C.
Nairn	29.37	746.0	29.46	748.3	45	7.2		Calm			0		8					¾ covered	W. D. Penny.
Nassau, (Bahamas)			30.14	765.5	69.4	20.8		N			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.59	751.6	29.78	756.4	44.3	6.8		S			3		10n		S	0.101	2.64	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.23	742.4	29.76	755.9	43.9	6.6		S			3-4		10					Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.82	757.4	44	6.7		SW			3		10					Drizzling	H. E. Bellamy.
Plymouth	29.71	754.6	29.75	756.7	49.0	9.4		Calm			0		10					Rain & fog	John Merrifield.
Roche's Point	29.65	753.6	29.80	757.3	46	8.9		SW			4		8					¾ covered	W. Kennedy.
Saint Ann's Head	29.53	750.0	29.69	754.1	47	8.3		S			4		10					Foggy	John C. Walker.
Sandwick Manse, (Orkneys)			29.49	749.0	40	4.4		SE	33	14.8			10					Misty	Rev. C. Clouston, LL. D.
Scutari, Cemetery, Turkey			29.93	760.2	49.2	9.6		NNE			2		10					Drizzling	Sergt. W. H. Lyne.
Sheffield	29.47	748.5	29.75	755.6	43.8	6.6		SSW			2		10			0.41	10.4	Drizzling	W. F. Cooper.
Silloth Rectory	29.56	750.8	29.59	751.6	48.5	9.2	91	SW			6		7			0.160	4.06	D. clouds	F. H. Redford.
Stonyhurst, Observatory	29.28	743.7	29.68	753.9	43.8	6.6		S			3		10					Misty	Rev. S. J. Perry.
Strathfield Turgiss	29.66	753.4	29.88	758.9	46.2	7.9		S			2-3		10					Raining	Rev. A. H. Groom, F.M.S.
Thurso	29.42	747.2	29.49	749.0	39	3.9		SSE			3		10					Gloomy	John Trotter.
Truro, Royal Institution			29.75	755.6	52	11.1		SW			5		8					Gloomy	W. Newcombe.
Valencia, Observatory	29.49	749.0	29.52	749.8	49.3	9.6		SSW	33	14.8			6					D. clouds	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)			29.96	761.0	60.6	15.6	88	SE			2		4k			0.01	0.3		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.58	751.3	46.5	8.1		W			4		8k			0.09	2.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.78	756.4	29.97	761.2	81.6	27.2	70	E	17.0	7.6		1	8		E	0.03	0.8	Squally	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.15	765.8	55.0	12.8	80	SSE	2	0.9			0			0.01	0.3	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.30	744.2	45	7.2		SW			7	5	5	SW		0.2	5.		J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

Note.—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	663.9	29.94	760.5	67.6	19.8	83	NE	.....	.....	3	2c	6s	.....	E	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as 'read off', its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.10	766.7	30.23	767.9	31.5	— 0.3	89	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	M. Hoffmeyer, Director.
Faröe	30.12	765.0	30.14	765.5	32.7	0.4	100	S	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	.....
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vestervig	29.93	760.2	30.10	764.5	31.8	— 0.1	98	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

FRENCH SERIES.

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

Alençon, Normal School	29.59	751.	30.14	765.6	38.5	3.6	90	SW	.....	.....	1	.....	10	.....	.....	0.098	2.5	Foggy	Collignon, Director.
Amiens, Normal School	30.01	762.	30.13	765.3	39.2	4.0	83	ESE	.....	.....	1	.....	10	.....	.....	0.098	2.5	Covered	Bonvallet, Director.
Avignon, Normal School	30.15	765.7	30.23	767.7	43.5	6.4	56	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.65	753.2	30.25	768.3	38.7	3.7	93	S	.....	.....	1	.....	10	.....	.....	0.035	0.9	Covered	C. Saillard, Director.
Beauvais, Normal School	29.87	758.8	30.17	766.4	38.3	3.5	93	S	.....	.....	1	.....	10	.....	.....	0.010	0.26	Covered	Frère Eugène Marie, Dir.
Besançon, Normal School	29.37	745.9	30.32	770.1	34.7	1.5	.....	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.39	746.6	30.30	769.7	33.3	0.7	86	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.59	751.6	29.83	757.7	51.1	10.6	95	SSW	.....	.....	6	.....	10	.....	SSW	0.079	2.00	Raining	Made Rermaur, Director.
Carcassonne, Normal School	29.75	755.6	30.17	766.4	48.9	9.4	56	E	.....	.....	1	.....	3	.....	NE	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	29.93	760.3	30.01	762.2	43.5	6.4	85	SSW	.....	.....	2	.....	8	.....	N	0	0	Cloudy	M. Ladr, Director.
Chartres, Normal School	29.54	750.3	30.13	765.4	34.2	1.2	85	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.3	30.23	767.8	36.7	2.6	79	SW	.....	.....	1	.....	10	.....	.....	0.205	5.2	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Ob.	28.79	731.2	30.18	766.5	44.8	7.1	80	N	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	Alluard, Director.
Commercy, Normal School	29.49	746.8	30.30	769.6	34.7	1.5	93	SE	.....	.....	1	.....	8kn	.....	SE	0.378	9.6	Very cloudy	Fr. Coubé, Director.
Commune de Gréasque*	29.09	738.8	30.23	767.8	50.0	10.0	89	NE	.....	.....	1	.....	2	.....	SE	0	0	M. covered	M. Kina, Director.
Grenoble, Normal School	29.51	749.6	30.31	770.5	28.4	— 2	.....	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Ablard, Director.
La Rochesur-Yon, N. School	29.91	759.6	30.13	765.2	43.9	6.6	77	S	.....	.....	1	.....	5	.....	S	0.08	2.	Cloudy	Monillet, Director.
Le Mans, Normal School	29.82	757.4	30.14	765.6	39.7	4.3	100	S	.....	.....	1	.....	10	.....	.....	0.108	2.75	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.31	744.5	30.28	769.1	31.8	— 0.1	74	NW	.....	.....	2	.....	0	.....	.....	0	0	Light fog	Bandry, Director.
Lorient, Naval Observatory	29.92	760.0	30.02	762.5	48.6	9.2	97	S	.....	.....	4	.....	.....	.....	S	0.472	12.0	.....	Lt. T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	29.17	740.8	30.24	768.2	34.2	1.2	88	NE	.....	.....	3	.....	k	.....	SW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	30.00	762.0	30.21	767.3	53.2	11.8	69	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.26	641.6	.....	.....	32.0	0.0	100	S	.....	.....	2	.....	8	.....	.....	0	0	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.13	765.2	30.16	766.0	44.4	6.9	79	S	.....	.....	1	.....	10	S	S	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.03	762.8	30.12	765.0	40.3	4.6	91	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.4	29.95	760.6	47.5	8.6	92	SSE	.....	.....	3	.....	10	S	S	0	0	Covered	Lt. Hercourt, Director.
Saint Maur, (near Paris)	30.01	762.2	30.17	766.4	37.6	2.8	100	SSE	.....	.....	1	.....	.....	.....	.....	0.043	1.1	.....	E. Renou, Director.
Tarbes, Normal School	29.12	739.6	30.22	767.6	51.1	10.	62	W	.....	.....	2	.....	9	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.86	760.8	30.31	769.8	37.0	2.8	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.32	8.	.....	L'Abbé Marches.
Lyons, Observatory	.....	.....	30.32	770.2	33.1	0.6	83	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.95	633.6	30.26	768.6	44.6	7.0	54	SW	7.4	3.3	.....	.....	2	.....	S	0	0	.....	M. Cave.
Nice	.....	.....	30.21	767.3	53.2	11.8	67	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Nieper, Jr.
Paris, Montsouris Obs'y	29.58	759.0	.....	.....	36.0	2.2	100	S	.....	.....	2	.....	10	.....	.....	0.012	0.3	Foggy	Marie Davy, Director
Perpignan	30.11	764.7	30.21	767.4	50.0	10.0	71	SE	3.8	1.7	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit) H. O.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Paylac
Pic du Midi, (Plantade,) H. O.	22.62	574.5	.....	.....	39.2	4.0	.....	N	.....	.....	1	.....	3	.....	.....	0	0	Fair	Grand de Fransouty.
Toulouse, Observatory	29.46	748.2	30.18	766.6	42.6	5.9	87	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	29.96	760.8	30.15	765.8	41.5	5.3	93	WSW	.....	.....	1	.....	7	.....	W	0	0	.....	C. Marqué.
Versailles, Observatory	.....	.....	30.14	765.5	39.6	4.2	.....	SW	.....	.....	1	.....	10	.....	.....	0.018	0.46	Covered	Dr. A. Renou, Director.
Zi-Ka-Wei, (near Shanghai)	29.99	761.7	30.01	762.3	62.5	11.4	81	W	6.9	3.1	.....	.....	10	.....	.....	0	0	Covered	Marc Decheverens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 3,6 instead of 6,63 p. m., local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 305 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.43	747.6	30.29	769.3	34.3	1.3	94	SSE	.....	.....	2	.....	9	SE	....	0.008	0.2	.....	Prof. Dr. Hoh.
Berlin	30.11	764.9	30.30	769.5	32.5	0.3	95	S	.....	.....	1	.....	10	.....	.....	0.020	0.5	.....	Prof. Arndt.
Breslau	29.79	756.7	30.33	770.3	22.5	— 5.3	82	SE	.....	.....	3	.....	0	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.83	757.6	30.28	769 0	37.4	3.0	93	NE	.....	.....	2	.....	10	SW	.....	0	0	Dense fog ...	Albert Senx.
Cassel	29.61	752.0	30.21	767.4	34.5	1.4	88	SSE	.....	.....	1	.....	10	SW	....	0	0	.....	Dr. H. Möhl.
Crefeld	30.02	762.5	30.18	766.6	37.6	3.1	88	SE	.....	.....	3	.....	9	.....	.....	0.08	2.	.....	Director Lose.
Emden	.....	.....	.....	.....	34.2	1.2	100	S	.....	.....	0	.....	10	.....	.....	0.197	5.0	.....	Prof. Prestel.
Frankfort on the Main	29.93	760.1	30.31	769.9	35.2	1.8	.....	SSW	.....	.....	0	.....	10	.....	.....	0.043	1.1	.....	Physical Society.
Friedrichshafen	28.77	730.7	30.26	768.6	38.5	3.6	58	ENE	.....	.....	2	.....	0	.....	.....	0.024	0.6	.....	M. Wilhelm.
Hamburg	30.17	766.2	30.24	768.1	34.3	1.3	98	SW	.....	.....	1	.....	10	.....	.....	0.185	4.7	Foggy	Captain F. Hegemann
Kiel	30.20	767.0	30.21	767.4	34.2	1.2	95	SW	.....	.....	2	.....	10	.....	.....	0.040	1.02	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.27	768.8	30.35	771.0	26.6	— 3.0	89	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.28	769.2	22.5	— 5.3	.....	SE	.....	.....	4	.....	1	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.87	758.7	30.32	770.0	34 5	1.4	93	WSW	.....	.....	1	.....	10	.....	.....	0.146	3.7	Foggy	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.32	770.0	30.36	771.2	23.2	— 4.9	86	ESE	.....	.....	1	.....	10cs	.....	.....	.....	.....	Light fog.....	Skalweit.
Neufahrwasser	30.34	770.7	30.36	771.1	30.2	— 1.0	88	Calm	.....	.....	0	.....	10	.....	.....	0	0	Dust-haze...	A. Lothes.
Posen	30.07	763.8	30.38	771.6	27.0	— 2.8	76	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.73	755.1	30.31	769.8	36.0	2.2	75	Calm	.....	.....	0	.....	3	W	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.29	743.9	30.27	768.9	36.0	2.2	96	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.75	730.3	30.33	770.3	35.1	1.7	57	Calm	0	0	.....	.....	10	.....	.....	0.035	0.9	.....	Dr. Van Bebber.
Wustrow, Naval School	30.22	767.6	30.24	768.2	28.6	— 1.9	92	SE	.....	.....	1	.....	10fog	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.43	747.6	29.83	757.7	63.2	11.8	.....	NE	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Raining.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.99	761.8	30.04	763.1	71.9	22.2	57	WNW	.....	.....	.....	.....	1	.....	.....	0	0	D. clouds.....	
Deesa	29.49	749.1	29.98	761.4	77.7	25.4	39	WNW	.....	.....	.....	.....	4	SW	.....	0	0	D. clouds.....	
Bombay	29.88	759.0	29.92	760.0	77.1	25.1	79	NW	14.0	6.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.91	708.8	29.91	759.7	79.4	26.3	.....	E	.....	.....	.....	.....	0	....	.....	0	0	Blue sky.....	
Lahore	29.32	744.7	30.10	764.6	57.6	14.2	37	Calm	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.39	695.7	29.93	760.2	77.0	25.0	55	Calm	0	0	.....	.....	1	.....	.....	0	0	D. clouds.....	
Roorkee	29.08	738.6	30.02	762.5	61.4	16.3	40	NW	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.44	747.8	30.03	762.7	64.8	18.2	60	W	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.92	734.4	29.97	761.1	78.6	25.9	36	Calm	1.8	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.63	752.6	30.02	762.5	62.4	16.9	61	N	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.71	754.5	30.03	762.7	65.7	18.7	72	Calm	1.1	0.5	.....	.....	1	.....	.....	0	0	D. clouds.....	
Patna	29.81	757.2	30.00	761.9	68.4	20.2	60	W	4.0	1.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.95	710.0	30.02	762.5	66.6	19.2	55	NW	5.9	2.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.90	759.4	29.98	761.6	72.1	22.3	81	NNE	1.1	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.98	761.4	30.00	761.9	67.9	19.9	72	N	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	69.5	20.8	62	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.88	759.1	29.98	761.5	69.8	21.0	69	Calm	4.1	1.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Sibsagar	29.65	753.2	30.00	762.0	63.9	17.7	84	ENE	0.5	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.59	726.2	29.98	761.4	73.8	23.2	51	Calm	2.2	1.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.80	756.8	30.23	767.7	41.7	5.4	49	SW	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.12	765.1	30 24	768.0	39.6	4.2	66	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.65	753.1	30.20	767.0	37.9	3.3	71	N	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schieparelli.
Moncalieri	29.29	743.9	30.24	768.0	38.7	3.7	73	NW	1.3	0.6	.....	.....	1	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.23	717.1	30.22	767.6	40.6	4.8	40	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.99	761.8	30.19	766.8	52.3	11.3	57	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.92	760.0	30.19	766.8	47.3	8.5	45	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	30.07	763.6	30.15	765.9	50.0	10.0	49	NE	6.8	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.18	766.5	30.23	767.8	41.0	5.0	78	N	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.94	760.4	30.12	765.0	52.0	11.1	56	N	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. P S. Ferrari.
Lecce	29.75	755.7	30.01	762.3	52.0	11.1	68	NNE	26.2	11.7	.....	.....	4	N	.....	0.071	1.8	.....	Prof. C. De Giorgi.
Cagliari	29.96	760.9	30.15	765.9	53.6	12.1	47	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.13	740.0	30.04	762.9	51.3	10.7	81	NE	4.3	1 9	.....	.....	0	.....	.....	0.047	1.2	.....	Prof. D. Conti.
Palermo	29.84	757.9	30.10	764.5	55.4	13.0	69	N	6.3	2.8	.....	.....	5	NW	.....	0.378	9.6	.....	Prof. G. Cacciatore.
Syracuse	29.97	761.1	30.04	763.0	57.6	14.2	69	NNE	11.2	5.0	.....	.....	7	NE	.....	0.366	9.3	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.4	30.10	764.5	53.1	11.7	47	E	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.18	766.6	30.20	767.1	38.3	3.5	57	N	0.9	3.1	.....	.....	0	.....	.....	0	0	Clear	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.95	760.7	30.16	766.0	42.2	5.7	89	SE	1.3	0.6	.....	.....	2s	.....	.....	0.134	0.340	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.15	765.8	30.22	767.6	35.0	1.7	82	ESE	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.12	638.0	30.30	769.6	44.2	6.8	57	SW	.....	.....	1	0	0	.....	.....	0	0	Very clear	Prof. L. Perez.
Leon	24.50	622.3	30.18	766.6	51 8	11.0	72	NNW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.11	586.9	30.28	769.0	45.0	7.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalits)	.....	.....	.....	.....	42.4	5.8	53	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.07	763.8	30.18	764.1	66.2	19	90	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	M. M. Cházaro.
San Luis Potosi	24.26	616.2	29.71?	754.5?	42.0	5.6	32	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Hazy	G. Barroeta, M D.
Vera-Cruz	30.09	764.3	30.12	765.0	68.9	20.5	91	Calm	0	0	.....	.....	4n	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	22.58	573.4	.....	.....	51.8	11	51	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.39	594.0	30.10	766.0	42.0	5.2	89	N	0.9	0.4	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.07	763.8	73.4	23.0	61	NE	.....	.....	2	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.00	761.9	30.12	765.2	70.5	21.2	.....	Calm	.....	.....	0	7n	3n	.....	.....	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	30.11	764.8	30.11	764.8	37.2	2.9	.....	S	.....	.....	.....	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	30.10	764.5	30.15	765.9	34.9	1.6	.....	S	.....	.....	3	.....	.....	.....	.....	0.106	2.7	.....	
Helder	30.08	764.0	30.08	764.0	37 0	2.8	.....	SSE	.....	.....	4	.....	.....	.....	.....	0.346	8.8	.....	
Hellevoetsluis	30.10	764.4	30.10	764.4	37.0	2.8	97	SE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.10	764.5	30.15	765.7	36.5	2.5	96	S	.....	.....	2	.....	10	.....	.....	0.008	0.2	Overcast	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.93	760.3	29.99	761.7	39.2	4.0	67	SSE	14.1	6.3	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.92	760.0	29.96	761.0	28.4	— 2.0	80	SSE	1.8	8	.....	.....	9	.....	.....	0	0	.....	
Christiania	30.04	762.9	30.19	766.8	29.5	— 1.4	94	SSW	7	3	.....	.....	10	.....	.....	0.071	1.8	.....	
Tromsö	29.88	758.9	29 92	760.0	26.2	— 3.2	70	SSW	9	4	.....	.....	9	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.12	765.1	30.32	770.0	57 2	14.0	84	NW	2.5	1.1	.....	.....	3	.....	.....	0.157	4.0	.....	Dr. J. A. Sampaio.
Campo Major	29.25	742.9	29.89	759.2	56.3	13.5	69	Calm	0	0	.....	.....	7	NW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.25	768.4	30.31	770.6	67.1	19.5	57	SW	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.94	760.5	30.31	769.8	56.5	13.6	74	SSE	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.27	768.9	30.34	770.7	59.7	15.4	89	SW	.....	.....	.....	.....	10	.....	.....	0.063	1.6	Light rain...	

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

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids	3	NNE	Blue sky	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'
Quanza, Ajuda, Upper Guinea	2	SW	D. clouds.....	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loando	0	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	0	.....	Blue sky.....	M T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.88	758.9	30.34	770.5	25.3	— 3.7	89	NE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.91	759.6	30.36	771.1	21.7	— 5.7	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	30.12	765.1	30.39	771.8	19.9	— 6.7	86	ESE	2	1	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
St. Petersburg	30.38	771.6	30.39	772.6	19.8	— 6.8	94	SE	9	4	.....	.....	10	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Kieff	30.58	751.2	30.26	768.5	22.6	— 5.2	100	E	4	2	.....	.....	10ks	.....	.....	.....	.....	Misty.....	Physical Cabinet.
Nikolaiev	30.14	765.6	30.21	767.4	30.6	— 0.8	56	N	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.15	765.9	30.17	766.4	44.2	6.8	98	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Lagorio.
Moscow	30.02	762.5	30.63	777.9	12.9	—10.6	90	W	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.13	765.4	30.35	771.0	25.5	— 3.6	87	E	22	10	.....	.....	10	.....	.....	.....	.....	.....	MeteorologicalObs.
Archangel	30.51	775.0	30.53	775.5	10.0	—12.2	96	SSE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	29.00	736.7	30.47	774.0	44.8	— 7.1	81	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.66	778.8	30.58	776.7	25.9	— 3.4	72	ENE	9	4	.....	.....	1c;s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.27	768.8	30.79	782.1	16.5	— 8.6	78	NW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.50	774.7	30.80	782.3	17.1	— 8.3	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.56	750.7	30.60	777.3	18.5	— 7.5	89	WNW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.15	765 9	30.41	772.4	20.5	— 6.4	76	NNE	11	5	.....	.....	8n	.....	.....	.....	.....	.....	
Tashkend	28.56	725.4	30.35	770.8	38.1	3.4	80	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.99	761.7	30.61	777.4	—17.5	—27.5	83	NW	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.79	756.6	30.52	775.1	—15.2	—26.2	75	SW	11	5	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.73	760.3	30.08	763.9	32.9	0.5	59	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.94	760.4	30.02	762.6	—12.3	—24.6	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.05	763.2	30.16	766.0	52.7	11.5	76	SSW	1.6	0.72	.....	.....	1c	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.07	763.6	30.12	765.0	59.4	15.2	68	SE	1.5	0.69	.....	4	4	NE	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.22	691.4	.....	.....	48.2	9.0	82	SW	2.6	1.18	.....	.....	2	.....	.....	0	0	.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.90	710.9	.....	.....	50.2	10.1	81	SW	0.7	0.33	.....	3	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.14	765.5	30.29	769.4	57.7	14.3	60	NE	1.3	0.56	.....	2	5	ENE	.....	0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.25	743.0	30.17	766.2	50.9	10.5	95	S	8.1	3.6	.....	.....	10	.....	.....	0.028	0.7	Drizzling.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.10	764.5	30.16	766.2	66.0	18.9	84	NNE	1.3	0.6	.....	.....	8k	.....	NNW	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.82	757.5	29.87	758 9	80.6	27.2	86	ENE	0.7	0.3	.....	0	0	.....	.....	0.30	1.3	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.19	766.8	30.29	769.4	62.4	16 9	81	SE	6.7	3.0	.....	2	3	NE	SE	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.98	761.6	30.08	763.9	75.4	24.1	90	SE	0	0	.....	4cs	2k	E	E	0.128	3.25	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.22	767.5	30.26	768.5	20.8	— 6.2	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.18	766.9	30.24	768.2	26.2	— 3.2	96	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	30.16	766.0	30.21	767.3	24.1	— 4.4	91	Calm	.....	.....	0	.....	10	.....	.....	0.047	1.2	Snowing	
Stockholm	30.08	764.0	30.26	768.5	28.8	— 1.8	96	Calm	.....	.....	0	.....	10	.....	.....	0.004	0.1	.....	
Wisby	30.17	766.2	30.23	767.7	32.0	0.0	92	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Sub-Series.																			
Upsala	30.17	766.3	30.24	768.2	25.5	— 3.6	96	E	0	0	.....	.....	10	.....	.....	0.006	0.14	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.82	732.0	30.34	770.6	24.1	— 4.4	95	S	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.58	725.9	30.29	769.4	33.4	0.8	69	SW	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +4.4 mm.; Thermometer, —5.8 cent.; Relative Humidity, +16 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	762.9	48.9	9.4	92	N	20	9.0	.....	.....	10	.....	NE	0.118	3.0	Raining	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.96	760.9	54.1	12.3	.....	NW	.....	.....	2	.....	0	.....	.....	0.24	6.	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.78	756.4	29.89	759.3	69.1	20.6	60	NE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	29.73	755.1	29.80	756.9	15.6	— 9.1	73	NW	7.2	3.2	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.63	752 6	29.96	761.0	14	—10.0	.....	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29.56	750.8	29.62	752.3	22	— 5.6	89	SW	8	3.6	.....	2k	8ks	SW	SW	0.09	2.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.60	751.8	29.65	753.1	21	— 6.1	93	W	5	2.2	.....	0	0	.....	.....	0.075	1.91	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.93	760.2	14.0	—10.0	95	NW	.....	.....	3	.....	10n	.....	.....	Inap.	Inap.	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.76	755.9	29.78	756.4	8	—13.3	68	W	40	17.9	.....	8k	2s	NW	NW	0.13	3.3	Cloudy	J. McWilliams.
Fredericton, N. B	29.67	753.6	29.74	755.4	23.5	— 4.7	78	SW	9.0	4.0	.....	0	2s;d	.....	W	0	0	Fine	Prof. Harrison.
*Fort Garry Manitoba	29.52	749.8	30.54	775.7	—32	—35.6	100	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.83	732.3	29.99	761.7	23	— 5.0	.....	N	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.58	751.3	29.72	754.9	22	— 5.6	93	W	5	2.2	.....	0	2ks	.....	W	0.030	0.76	Fair	F. Allison, M. A.
Hamilton, Ontario	29.64	752.8	30.03	762.8	25.9	— 3.4	89	SW	.....	.....	1	10cs	0	SW	.....	0	0	Hazy	Geo. Dickson, M. A.
Heart's Content, N. F	29.79	756.7	29.81	757.2	25	— 3.9	100	SE	.....	.....	2	.....	10	.....	.....	0.05	1.3	Overcast	E. Weedon.
*Kingston, Ontario	29.60	751.8	29.96	761.0	18	— 7.8	83	NE	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.54	750.3	29.58	751.3	29.7	— 1.3	88	W	6	2.7	.....	3k	0	W	.....	0.15	3.8	Fair	C. H. Rigby.
Moose Factory, Ontario	30.20	767 1	30.24	768.1	—37.6	—38.7	.....	W	.....	.....	1	0	0	.....	.....	0.05	1.3	Clear	J. R. Nason.
*Montreal, Quebec	29.74	755.4	29.96	761.0	11	—11.7	80	E	12	5.4	.....	.....	10n	.....	.....	0.02	0.5	Light snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.31	744.5	30.08	764.0	— 1	—18.3	63	N	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.15	740.4	29.95	760.7	23.3	— 4.8	85	W	.....	.....	.....	.....	10n	.....	.....	.....	.....	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.98	761.5	25	— 3.9	100	SW	5	2.2	.....	.....	10n	.....	.....	0.08	2.0	Threatening	H. Morgan.
Port Hastings, N. S	29.56	750.8	29.62	752.3	27.5	— 3.5	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.32	744.7	30.01	762.2	20	— 6.7	97	W	.....	.....	.....	.....	10n	.....	W	0.04	1.0	Cloudy	M. Payne.
*Quebec, Quebec	29.53	750.0	29.89	759.2	4	—15.6	87	NW	.....	.....	5	0	0	.....	.....	0.30	7.6	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.58	751.3	30.10	764.5	— 4	—20.0	83	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	25	— 3.9	82	W	.....	.....	2	.....	5ks	.....	.....	0	0	Fair	Dr. Gove.
St. John, N. B	29.59	751.6	29.77	756.1	23	— 5.0	86	SW	7	3.1	.....	0	2ck	.....	.....	0	0	Fine	G. Murdock, C. E.
*Sangeen, Ontario	29.27	743.4	30.03	762.8	17	— 8.3	84	N	7	3.1	.....	.....	10ks	.....	N	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.18	741.2	30.02	762.5	16	— 8.9	90	N	10	4.5	.....	.....	10n	.....	N	0	0	Threatening	R. J. Cole.
Stratford, Ontario	28.62	726.9	29.97	761.2	22.0	— 5.6	94	Calm	0	0	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.58	751.3	29.62	752.3	32	0.0	89	W	10	4.5	.....	.....	8ks	.....	W	0.12	3.0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.57	751.1	29.98	761.5	26	— 3.3	88	NW	7	3.1	.....	.....	10ks	.....	NW	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.63	752.6	29.72	754.9	22.0	— 5.6	86	W	5	2.2	.....	1cs	0	Calm	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	28.0	— 2.2	100	SE	.....	.....	.....	.....	10n	.....	.....	0.05	1.3	Snowing	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Albany, New York	29.67	753.6	29.90	759 4	30	— 1.1	84	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy.	
Alpena, Michigan	29.36	745.7	30.04	763.0	20	— 6.7	70	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy.....	
Atlanta, Georgia	28.94	735.1	30.13	765.3	37	2.8	90	W	8	3.6	.....	1cs	Sm'e	Calm	Calm	0	0	Smoky.....	
Atlantic City, New Jersey	29.96	761.0	29.97	761.2	30	— 1.1	100	W	3	1.3	.....	.....	10n	.....	Calm	0.01	0.3	Light rain...	
Augusta, Georgia	29.95	760.7	30.14	765.5	39	3.9	91	Calm	0	0	.....	2ck	Sm'e	Calm	.....	0	0	Smoky.....	
Baltimore, Maryland	29.96	761.0	30.01	762.2	34	1.1	90	SW	2	0.9	.....	.....	10s;fg	.....	Calm	0	0	Foggy...	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	30	— 1.1	89	W	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	28.34	719.8	30.20	767.1	— 8	—22.2	100	Calm	0	0	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy	
Boerne, Texas	28.60	726.4	29.92	760.0	53	11.7	100	S	6	2.7	.....	5k	0	S	.....	0	0	Cloudy.....	
Boise City, Idaho	26.85	682.0	29.81	757.2	30	— 1.1	89	S	10	4.5	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy.....	
Boston, Massachusetts	29.72	754.9	29.88	758.9	27.0	— 2.8	76	NW	7	3.1	.....	2k	5s;fog	W	W; Calm	0	0	Fair.....	
Brackettville, Texas	28.91	734.3	29.94	760.5	54	12.2	93	SE	2	0.9	.....	.....	Fog	.....	SE	0	0	Foggy	
Breckenridge, Minnesota	29.22	742.2	30.38	771.6	—12	—24.4	100	N	12	5.4	.....	1ck	0	NW	.....	0.01	0.3	Clear.....	
Brownsville, Texas	30.03	762.8	30.10	764.5	55	12.8	93	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Buffalo, New York	29.23	742.4	29.96	761.0	25	— 3.9	88	SW	6	2.7	.....	.....	10n	.....	Calm	0.09	2 3	Light snow..	
Burkes, Arizona	.....	.....	.....	.....	39	3.9	25	S	.....	.....	7	5c	0	E	.....	0	0	Fair.....	
Burlington, Vermont	29.59	751.6	29.90	759.4	26	— 3.3	88	N	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap	Light snow..	
Cairo, Illinois	29.77	756 1	30.18	766.6	37	2.8	90	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.14	638.5	29.94	760.5	45	7.2	84	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Camp Verde, Arizona	.....	.....	.....	.....	23	— 5.0	34	W	.....	.....	1	5cs	0	Calm	.....	0	0	Fair..	
Campo, California	27.48	698.0	30.05	763.3	39	3.9	91	SW	6	2.7	.....	.....	10s	.....	SW	0.12	3.0	Cloudy.....	
Cape Hatteras, N. Carolina	30.07	763.8	30.07	763.8	45	7.2	92	SW	10	4.5	.....	2cs	0	W	.....	0.02	0.5	Fair	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	42	5.6	83	SW	12	5 4	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cape Lookout, N. Carolina	30.08	764.0	30.09	764.3	44	6.7	92	W	9	4.0	.....	.....	10ks	.....	SW	0.02	0.5	Cloudy.....	
Cape May, New Jersey	29.93	760.2	29.96	761.0	30	— 1.1	89	W	8	3.6	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.28	743.7	30.00	762.0	52	11.1	93	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Charleston, South Carolina	30.11	764.8	30.17	766.3	45	7.2	84	W	8	3.6	.....	8cs	0	W	.....	0	0	Fair	
Cheyenne, Wyoming	23.84	605.5	29.78	756.4	6	—14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.32	744.7	30.06	763.5	17	— 8.3	100	SW	5	2.2	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Cincinnati, Ohio	29.43	747.5	30.11	764.8	32	0.0	84	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cleveland, Ohio	29.28	743.7	30.04	763.0	27	— 2.8	88	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Coleman City, Texas	28.22	716.8	29.94	760.5	38	3.3	91	S	4	1.8	.....	2c	2s	Calm	Calm	0	0	Fair	
Columbus, Ohio	29.17	740.9	30.04	763.0	29	— 1.7	78	S	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Corpus, Texas	28.09	713.5	29.88	758.9	39	3.9	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.58	751.3	30.05	763 3	51	10.6	93	S	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Davenport, Iowa	29.42	747.3	30.12	765.0	12	—11.1	61	W	3	1.3	.....	Haze	0	Calm	.....	0	0	Hazy	
Deadwood, Dakota	25.19	639.8	.....	.....	8	—13.3	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Decatur, Texas	28.83	732.3	30.02	762.5	46	7.8	84	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	29.24	742.7	30.06	763.5	41	5.0	91	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Denver, Colorado	24.53	623.0	29.75	755.6	5	—15.0	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.24	742.7	30.21	767.3	7	—13.9	88	N	6	2.7	.....	0	5s	.....	N	0	0	Fair.....	
Detroit, Michigan	29.31	744.5	30.01	762.2	24	— 4.4	87	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dodge City, Kansas	27.40	696.0	29.81	757.2	24	— 4.4	87	N	4	1 8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Dubuque, Iowa	29.38	746.2	30.15	765.8	9	—12.8	78	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.46	748.3	30.23	767.8	— 2	—18.9	67	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear.....	
Eagle Pass, Texas	29.26	743.2	30.02	762.5	45	7.2	100	Calm	.....	.....	0	.....	Fog	.....	Calm	0	0	Foggy	
Eastport, Maine	29.71	754.6	29.78	756.4	27	— 2.8	82	SW	4	1.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	56	13.3	94	Calm	.....	.....	0	.....	Fog	.....	Calm	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	44	6.7	67	Calm	0	0	.....	5k	0	W	.....	0	0	Fair.....	
Erie, Pennsylvania	29.24	742.7	29.98	761.5	28	— 2.2	88	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.40	746.7	30.11	764.8	14	—10.0	82	N	6	2.7	.....	.....	10n	.....	N	0.01	0.3	Light snow..	
Florence, Arizona	28.49	723.6	30.09	764.3	36	2.2	80	E	.....	.....	2	5k	5s	SW	SW	0	0	Cloudy	
→ Fort Buford, Dakota Ter	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.41	645.4	29.48	748.8	37	2.8	46	W	4	1.8	.....	2ck	0	W	.....	0	0	Clear	
Fort Davis, Texas	25.19	639.8	30.15	765.8	37	2.8	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort Gibson, Indian Ter	29.50	749.3	30.06	763.5	34	1.1	79	NW	4	1.8	.....	5ck	2ks	NW	NW	0	0	Cloudy.....	
Fort Griffin, Texas	28.72	729.5	30.03	762.8	38	3.3	81	Calm	0	0	.....	c	2s	.....	Calm	0	0	Clear.....	
→ Fort Keogh, Montana Ter	.....	.....	.....	.....	— 5	—20.6	.....	N	18	8.0	.....	5k	0	NW	.....	0	0	Fair.....	
Fort McKavett, Texas	27.82	706.6	29.75	755.6	52	11 1	86	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.94	760.5	33	0.6	89	N	14	6.3	.....	0	5s	.....	NW	0	0	Fair	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.28	718.3	29.83	757.7	55	12.8	68	S	4	1.8	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.09	764.3	30.13	765.3	53	11.7	93	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy.....	
Graham, Texas	28.91	734.3	30.03	762.8	36	2.2	90	Calm	0	0	.....	2cs	0	W	.....	0	0	Fair.....	
Grand Haven, Michigan	29.32	744.7	30.00	762.0	27	— 2.8	76	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianapolis, Indiana	29.24	742.7	30.05	763.3	30	— 1.1	78	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianola, Texas	30.10	764 5	30.13	765.3	49	9.4	79	E	7	3.1	.....	1c	Fog	Calm	Calm	0	0	Foggy.....	
Jacksboro, Texas	28.84	732.5	30.00	762.0	40	4.4	73	N	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.17	766.3	30.20	767.1	42	5 6	83	SW	2	0.9	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.44	747.8	30.11	764 8	17	— 8.3	83	W	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Key West, Florida	30.15	765.8	30.18	766.6	62	16.7	77	N	5	2.2	.....	5k	0	N	.....	0	0	Fair.....	
Kittyhawk North Carolina	30.01	762 2	30.03	762.8	40	4.4	91	W	13	5.8	.....	5ck	0	W	.....	0.10	2.5	Fair.....	
Knoxville, Tennessee	29.09	738.9	30.13	765.3	37.5	3.1	77	W	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy.....	
La Crosse, Wisconsin	29.32	744.7	30.14	765.5	6	—14.4	88	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	39	3.9	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Laredo, Texas	29.62	752.3	29.96	761.0	57	13.9	94	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Leavenworth, Kansas	29.18	741.2	30.07	764.8	25	— 3.9	87	N	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Los Angeles, California	29.73	755.1	30.08	764.0	43.0	6.1	96	NE	3	1.3	.....	5k	Fog	W	Calm	0.07	1.8	Fair	
Louisville, Kentucky	29.52	749.8	30.10	764.5	36	2.2	80	SW	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Lynchburg, Virginia	29.25	742.9	29.95	760.7	35	1.7	80	Calm	0	0	.....	8ks	0	Calm	.....	0	0	Cloudy.....	
Madison, Wisconsin	29.04	737.6	30.10	764.5	15	— 9.4	65	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.35	745.5	30.11	764.8	15	— 9.4	100	NW	8	3.6	.....	.....	10n	.....	Calm	0.12	3.0	Light snow..	
Mason, Texas	28.37	720.6	30.14	765.5	50	10.0	65	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Memphis, Tennessee	29.83	757.7	30.16	766.1	36	2.2	100	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Milwaukee, Wisconsin	29.25	742.9	30.02	762.5	22	— 5.6	86	NW	9	4.0	.....	.....	10s	.....	NW	0	0	Cloudy	
Mobile, Alabama	30.21	767.3	30.25	768.3	42	5.6	100	SW	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.98	761.5	30.23	767.8	39	3.9	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Morgantown, West Virginia	28.95	735.3	30.01	763.0	37	2.8	81	Calm	0	0	.....	.....	10s; fg	.....	Calm	0	0	Cloudy.....	
Mt. Washington, N. H.	23.25	590.5	29.61	752.1	5	—15.0	100	NW	51	22.8	.....	.....	10n	.....	NW	0.07	1.8	Light snow.	
Nashville, Tennessee	29.61	752.1	30.16	766.1	37	2.8	90	W	2	0.9	.....	.....	10sgsne	.....	Calm	0	0	Cloudy.....	
New Haven, Connecticut	29.79	756.7	29.92	760.0	23	— 5.0	86	W	4	1.8	.....	2cs	Fog	Calm	Calm	0	0	Fair	
New London, Connecticut	29.86	758.4	29.91	759.7	25	— 3.9	75	W	4	1.8	.....	0	1s;fg	.....	Calm	0	0	Fair.....	
New Orleans, Louisiana	30.15	765.8	30.21	767.3	45	7.2	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.84	757.9	29.90	759.4	29	— 1.7	78	SW	7	3.1	.....	1cs	0	Calm	.....	0	0	Clear	
New York, New York	29.77	756.1	29.96	761.0	26	— 3.3	77	W	7	3.1	.....	Haze	Haze	Calm	Calm	0	0	Hazy.	
Norfolk, Virginia	29.93	760.2	29.99	761 7	40	4.4	91	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
North Platte, Nebraska	27.05	687.1	29.86	758.4	6	—14.4	82	W	8	3.6	.....	5	0	W	.....	0	0	Fair	
Olympia, Washington Ter.	29.99	761.7	30.04	763.0	29.2	— 1.6	89	Calm	0	0	.....	0	0	.....	.....	0.53	13.5	Clear	
Omaha, Nebraska	28.94	735.1	30.14	765.5	10	—12.2	79	N	6	2.7	.....	Haze	5s	Calm	NW	0	0	Fair	
Oswego, New York	29.60	751.8	29.93	760.2	35	1.7	80	SW	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Pembina, Dakota	29.48	748.8	30.48	774.2	—22	—30.0	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.93	760.2	29.98	761.5	32	0.0	89	W	.....	.....	1	.....	10s;fg	.....	W; Calm	0	0	Cloudy	
Phœnix, Arizona	28.86	733.0	30.75	781.0	35	1.7	70	Calm	.....	.....	0	10c	0	SW	.....	0	0	Cloudy	
Pike's Peak, Colorado	17.37	441.2	29.58	751.3	— 4	—20.6	28	SW	24	10.7	.....	0	2s	.....	Calm	0	0	Clear	
Pioche, Nevada	23.77	603.8	29.54	750.3	25	— 3.9	62	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.17	740.9	30.01	762.2	30	— 1.1	78	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	29.30	742.2	29.99	761.7	28	— 2.2	88	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.78	756.4	29.84	757.9	28	— 2.2	77	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.95	760.7	30.06	763.5	32.5	0.3	89	NW	2	0.9	.....	0	0	.....	.....	0.50	12.7	Clear	
Prescott, Arizona	24.54	623.3	29.90	759.4	16	— 8.9	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.31	744.5	30.19	766.8	29	— 1.7	68	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.19	766.8	30.20	767.1	53	11.7	86	NE	8	3.6	.....	5k	0	SE	.....	0	0	Fair	
Red Bluff, California	29.57	751.1	29.94	760.5	36	2.2	90	NW	10	4.5	.....	0	0	.....	.....	0.17	4.3	Clear	
Rio Grande City, Texas	29.91	759.7	30.13	765.5	54	12.2	93	E	2	0.9	.....	0	Fog	.....	.....	0	0	Foggy	
Rochester, New York	29.30	744.2	29.94	760.5	27	— 2.8	88	W	7	3.1	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Roseburg, Oregon	29.50	749.3	30.09	764.3	33.7	0.8	90	NE	1	0.4	.....	8cs;ck	0	NW	.....	0.19	4.8	Fair	
Sacramento, California	29.77	756.1	29.86	758.4	42.5	5.8	88	SE	13	5.8	.....	.....	10s	.....	W	0.702	17.83	Cloudy	
St. Louis, Missouri	29 52	749.8	30.13	765.3	27	— 2.8	88	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.21	767.3	30.23	767.8	35	1.7	90	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.26	743.2	30.17	766.3	9	—12.8	89	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.38	644.6	29.71	754.6	29	— 1.7	67	E	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
San Antonio, Texas	29.40	746.7	29.99	761.7	54	12.2	100	Calm	0	0	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
San Diego, California	30.07	763.8	30.14	765.5	46.6	8 1	96	NE	3	1.3	.....	0	2ks	.....	W	0.03	0.8	Fair	
Sandusky, Ohio	29.34	745.2	30.04	763.0	30	— 1.1	78	NW	9	4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	29.91	759.7	29.94	760.5	28	— 2.2	88	W	5	2.2	.....	5c	Haze	W	Calm	0	0	Fair	
San Francisco, California	29.87	758.7	29.94	760.5	47	8.3	55	NW	24	10.7	.....	0	0	.....	.....	0.28	7.1	Clear	
Santa Fé, New Mexico	23.15	688.0	29.69	754.1	31	— 0.6	79	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Savannah, Georgia	30.09	764.3	30.19	766.8	46	7.8	84	SW	6	2.7	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.91	759.7	30.13	765.3	44	6.7	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Silver City, New Mexico	24.23	615.4	30.50	774.7	39	3.9	91	Calm	0	0	.....	.....	10n	.....	Calm	0.36	9.1	Light rain	
Smithville, North Carolina	30.08	764.0	30.12	765.0	46	7.8	92	W	6	2.7	.....	10ck	0	NW	.....	0	0	Cloudy	
Springfield, Massachusetts	29.76	755.9	29.90	759.4	24	— 4.4	61	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Stockton, Texas	26.93	684 0	29.93	760.2	37	2.8	81	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.83	757.7	29.89	759.2	29	— 1.7	78	NW	13	5.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio,	29.30	744.2	30.01	762.2	27	— 2.8	88	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	48	8.9	56	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	30.16	765.1	30.19	766.8	42	5.6	91	W	4	1.8	.....	0	2s	.....	W	0	0	Fair	
Umatilla, Oregon	29.61	752.1	30.13	765.3	32.0	0.0	59	NW	10	4.5	.....	.....	10n	.....	NW	0.02	0.5	Light snow	
Unalashka, Aleutian Islands	.....	.....	.....	.....	27	— 2.8	88	SW	.....	.....	4	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.17	740.9	30.00	762.0	53	11.7	86	S	1	0.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississippi	29.97	761.2	30.24	768.1	40	4.4	100	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Virginia City, Montana	23.90	607.0	29.38	746.2	15	— 4.9	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.67	753.6	30.06	763.5	39	3.9	95	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	29.89	759.2	30.01	762.2	31.5	— 0.3	95	NW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Wickenburg, Arizona	.....	.....	.....	.....	27	— 2.8	88	N	.....	.....	1	5cs	.....	W	.....	0	0	Fair	
Wilmington, N. Carolina	30.01	762.2	30.09	764.3	43	6.1	91	SW	5	2.2	.....	8ck	0	W	.....	0	0	Fair	
Winnemucca, Nevada	25.37	644.4	29.73	755.1	25	— 3.9	87	SW	15	6.7	.....	.....	10n	.....	Calm	0.36	9.1	Light snow	
Wood's Holl, Mass	29.84	757.9	29.88	758.9	32	0.0	69	NW	6	2.7	.....	Haze	5s	Calm	.....	Inap.	Inap.	Fair	
Yankton, Dakota	28.89	733.8	30.37	771.4	— 6	—21.1	61	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.87	758.7	30.04	763.0	36	2.2	53	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
Fayettville, Ark	28 43	722.4	29.88	758.9	37	2.8	80	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I	30.12	765.0	30.14	765.5	69	20.6	71	E	1.2	0.5	.....	0	9ks	.....	N	0	0	Clearing	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.19	766.8	30.20	767.1	75	23.9	90	Calm	0	0	.....	2c	2s	SE	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.97	761.2	30.05	763.3	79	26.1	.....	NE	13.3	5.9	.....	.....	.....	.....	.....	0	0	Fair	F. M Everett.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	78	25.6	91	E	.....	.....	2	.....	10n	E	.....	0	0	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.04	763.0	30.09	764.3	—35.5	—37.5	.....	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft,. or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,286 ft., or 1,916 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in,; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.20	767.1	47	8.3	44	6.7	76	WNW	42	18.8	.....	.....	2	.....	E	0	0	.....	.....	Fair.....	
Navy Yard, Pensacola, Fla.	30.30	769.6	43	6.1	43	6.1	93	NW	1	0.4	.....	.....	Fog	.....	NW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.89	759.2	56	13.3	29	— 1.7	78	SW	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Naval Hospital, Yokohama, Japan *	30.16‡	766.1‡	.....	.....	38.2	3.4	72	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Alliance, Smyrna, Turkey	29.87‡	758.7‡	.....	.....	59	15.0	49	ENE	.....	.....	2-3	.....	10	.....	E	.....	.....	.....	.....	Misty.....	
Ashuelot. N. 13° 43′, E. 100° 29′	29.99	761.7	81	27.2	76	24.4	86	N	.....	.....	1	.....	5	.....	Calm	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La	30.23	767.8	38	3.3	43	6.1	92	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Foggy.....	
Colorado. New York, N. Y.	29.69	738.9	27	— 2.8	25	— 3.9	??	SW	2	0.9	.....	.....	10?	.....	.....	0	0	.....	.....	Clear.....	
Constitution, Havre, France	29.97‡	761.2‡	.....	.....	45	7.2	100	SSW	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Raining.....	
Despatch. Constantinople, Turkey	30.02‡	762.5‡	.....	.....	51	10.6	100	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Raining.....	
Franklin, Norfolk, Va.	30.14	765.5	75	23.9	44	6.7	92	WSW	6	2.7	.....	.....	10	.....	WSW	0	0	.....	.....	Cloudy.....	
Gettysburg, Villafranca, France	30.03‡	762.8‡	.....	.....	72	22.2	76	SSW	.....	.....	0-1	.....	2	.....	.....	0	0	Smooth	.....	D. clouds....	
Hartford, Montevideo, Uruguay	29.72	754.9	76	24.4	77	25.0	69	N	12.0	5.4	.....	.....	2	.....	.....	0	0	Smooth	.....	Clear.....	
Lackawana, Panama	29.73‡	755.1‡	.....	.....	77	25.0	86	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.95‡	760.7†	.....	.....	26	— 3.3	75	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Yokohama, Japan *	30.25‡	768.3‡	.....	.....	36	2.2	80	W	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.	30.29†	769.4†	.....	.....	47	8.3	85	W	3	1.3	.....	.....	10?	.....	.....	.....	.....	.....	.....	Clear?.....	
Onward, Callao, Peru	30.00†	762.0†	.....	.....	67	19.4	89	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.99	761.7	36	2.2	25	— 3.9	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	31	— 0.6	79	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama	29.90‡	759.4‡	.....	.....	76	24.4	95	WNW	4.0	1.8	.....	.....	1	.....	.....	0	0	Smooth	WNW	Clear.....	
Powhatan, Norfolk, Va.	29.98	761.5	43	6.1	44	6.7	84	SSW	5.0	2.2	.....	.....	10	.....	WSW	.....	.....	.....	.....	Cloudy.....	
Quinnebaug, N. 36° 33′, W. 68° 45′	29.96‡	761.0‡	.....	.....	61	16.1	77	W	.....	.....	5	.....	10	.....	W	.....	.....	Long	W	Cloudy.....	
Richmond, N. 36° 58′, W. 67° 15′	29.95‡	760 7‡	.....	.....	62	16.7	72	W	.....	.....	4	.....	10	.....	W	.....	.....	Mod'ate	WNW	Overcast.....	
Rio Bravo. Brownsville, Texas	30.03	762.8	58	14.4	55	12.8	100	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee. Annapolis, Md.	29.97‡	761.2‡	.....	.....	32	0.0	.....	W	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
St. Louis, League Island, Pa	29.90	759.4	49	9.4	30	— 1.1	.....	W	9	4.0	.....	.....	10	.....	WNW	0	0	.....	.....	Cloudy.....	
Supply, N. 46° 25′, W. 11° 07′	29.91‡	759.7‡	.....	.....	50	10.0	93	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Mod'ate	WSW	Light rain...	
Trenton Villafranca, France *	30.18‡	766.6‡	.....	.....	56	13.3	63	SSW	.....	.....	0-1	.....	1	.....	Calm	0	0	.....	.....	Fair.....	
Tuscarora. Panama Bay	29.92‡	760.0‡	.....	.....	77	25.0	76	SW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Vandalia. Boston, Mass.	29.87‡	758.7‡	.....	.....	31	— 0.6	79	NW	.....	.....	2	.....	5	.....	NW	.....	.....	Smooth	.....	Fair.....	
Wabash. Boston, Mass.	29.94‡	760.5‡	.....	.....	29	— 1.7	.....	W	2	0.9	.....	.....	5	.....	.....	.....	.....	.....	.....	Hazy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4: weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from: they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 13° 54′, W. 90° 49′		29.95*	760.7*	73	22.8	??	N			2		1				Moderate; ground	WNW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		30.20	767 1				Calm			0				SSE				Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer,																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 41° 00′, E. 154° 12′		29.93†	760.2†	35	1.7	??	NNW			5		ck		Var.	Blank	Chop	Var.	Squally	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 38° 29′, W. 57° 39′		29.84	757.9	61.0	16.1	88	S			2		8?		NNE	0	5	NNE	Clear	L. Jahns.
S. S. Leipzig, N. 46° 5′ W. 32° 49′		30.07	763 8	46.6	8.1		NW			5–8		5		NW	Blank	9	NW; NNW	Stormy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		29.90*	759.4*	35	1.7	80	NW			4		6		NW	0			Partly clo'dy	Captain Sargent.
S. S. Ohio, Liverpool		29.71†	754.6†	47	8.3	92	SSE			3		10		SSE	Blank			Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen

NOTE —The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

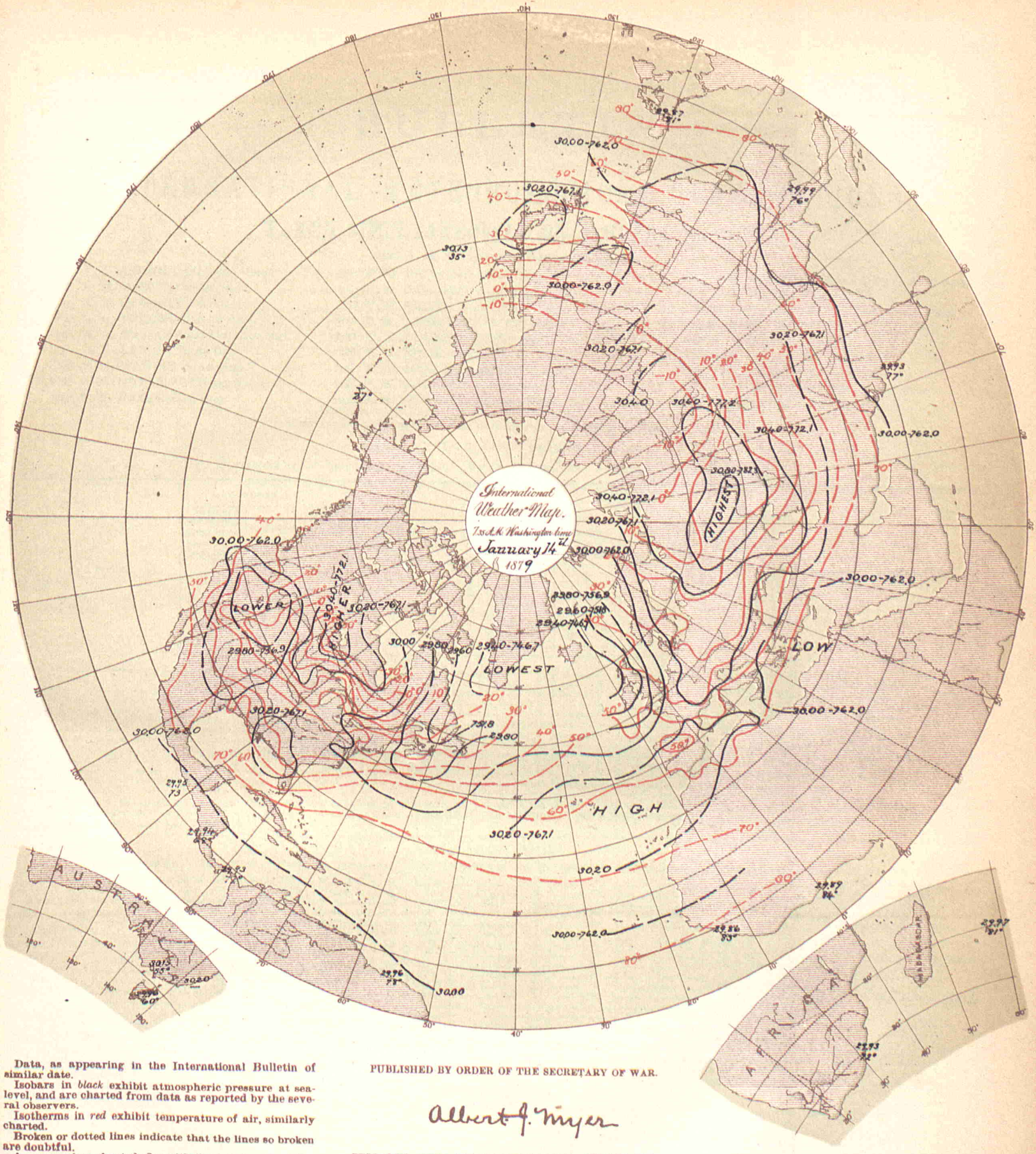
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 15, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.34	770 5	61.5	16.4	83	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.30	769.5	60 3	15.7	87	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.17	766.3	59 0	15.0	26	WSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.23	767.7	62.6	17.0	63	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.21	767.4	59.5	15.8	64	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.26	768.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.17	766.2	54.5	12.5	45	S	.....	.....	0	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.17	766.2	56.3	13.5	64	SSW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.19	766.8	58.6	14.8	100	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.16	766.0	61.5	16.4	26	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.17	766.2	63 3	17.4	36	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.58	751.4	30.17	766.2	30.6	— 0.8	81	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. Ivan Stoair.
Cracow, I. R. Observatory	29.31	744.5	30.12	765.1	27.5	— 2.5	94	E	.....	.....	1	.....	9	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.16	740.6	30.09	764.2	28.4	— 2.0	80	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.79	731.3	30.11	764.8	28.0	— 2.2	79	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini
Hermannstadt	28.57	725.7	30.11	764.9	23.4	— 4.8	95	NW	.....	.....	1	.....	10	.....	.....	0.068	1.72	.....	Prof. A. Gottschling.
Kremsmünster	28.59	726.1	30.00	762.1	27.5	— 2.5	100	ENE	.....	.....	1	.....	10	.....	.....	0.165	4.2	.....	Prof. C. Wagner.
Lemberg	29.07	738.3	30.12	765.1	24.1	— 4.4	98	SW	.....	.....	1	.....	10	.....	.....	0 008	0.2	.....	Dr. T. Stanecki.
Pola	29.93	760.1	30.04	763.0	45.7	7.6	68	N	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.68	753.9	30.18	766.5	24.3	— 4.3	94	SE	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	Julius Csics, S. J.
Szegedin	29.87	758.6	30.17	766.2	28.4	— 2.0	90	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.95	760.7	30.05	763.3	45.1	7.3	65	Calm	.....	.....	0	.....	2	.....	.....	0.220	5.6	Raining	P. Busin.
Vienna	29.34	745.3	30.12	765.0	17.4	— 8.1	97	Calm	.....	.....	0	.....	10	.....	.....	0.315	8.0	.....	I. R. Central Met. Ob's'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.37	746.0	29.47	748.5	36.3	2.4	.....	WNW	3	1.3	.....	.....	9	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	29.54	750.3	29.55	750.6	42	5.6	.....	WNW	.....	.....	3	.....	7	.....	.....	.....	.....	Showery...	George Carrick.
Armagh, Observatory	.....	.....	29.70	754.4	41.0	5.0	.....	W	13	5.8	.....	.....	5	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.65	753.1	40.3	4.6	.....	W	20	8.9	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	29.66	753.4	39.2	4 0	.....	WSW	18.0	8.0	.....	.....	10	.....	.....	.....	.....	Raining.....	Thomas Mackereth.
Bradford, Yorkshire	29.24	742.7	29.63	752.6	32.7	5.9	.....	SW	.....	.....	1	.....	6	.....	.....	0.35	8.9	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	81	27.2	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	29.65	753.1	42.0	5.6	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	H. Todd. [O.
Cardington	.....	.....	29.69	754.1	41.0	5.0	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John McLaren.
Chatham, School M. E.	29.61	752.1	29.75	755.6	42.7	5.9	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Lt. W. G. Morris, R.E.
Dartmoor	28.36	720.3	29.85	758.2	42.0	5.6	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	29.65	753.1	29.69	754.1	40	4.4	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds..	J. Mac Gowan.
Dover	29.74	755.4	29.76	755.9	43	6.1	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	Raining	J. Costello.
Falmouth, Observatory	29.70	754.4	29.93	760.2	46.1	7.9	.....	W	.....	.....	3	.....	6?	.....	.....	.....	.....	Overcast?...	The Staff.
Fort Napier, (Natal)	27.54	699.5	29.84	757.9	85.5	29.7	.....	NW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.68	753.9	29.91	759.7	85	29.4	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.79	756.7	47	8.3	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.15	765.8	30.21	767.3	61.5	16.4	.....	W	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.34	745.2	29.55	750.6	38.8	3.8	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.59	751.6	29.60	751.8	42	5.6	.....	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.54	750.3	29.71	754.6	42.5	5.8	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.72	754.9	29.94	760.5	45.5	7.5	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	Gloomy.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.86	758.4	29.98	761.5	46	7.8	.....	SW	.....	.....	2	.....	2ck	.....	.....	0.21	5.3	Light shower...	M. P. Moyle.
Holyhead	29.70	754.4	29.75	755.6	43	6 1	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.68	753.9	29.98	761.5	46.2	7.9	.....	WSW	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	29.70	754.4	29.74	755.4	44.7	7.1	.....	W	19	8.5	.....	.....	8	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.73	755.1	29.76	755.9	43	6.1	.....	WNW	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky.....	George Mitchell.
Leicester, Museum	29.40	746.7	29.66	753.4	41.5	5.3	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.08	764.0	30.10	764.5	57	13.9	.....	NW	.....	.....	1	.....	2k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	29.37	746.0	29.46	748.3	42	5.6	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	¼ covered...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.16	766.1	71.0	21.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.47	748.5	29.66	753.4	41.8	5.4	.....	WNW	.....	.....	2	.....	10d	.....	WNW	0.276	7.01	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.14	740.1	29.67	753.6	40.9	4.9	.....	W	.....	.....	4	.....	9	.....	.....	.....	.....	Threatening	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.73	755.1	45	7.2	.....	W	.....	.....	5	.....	7	.....	.....	.....	.....	Squally.....	H. E. Bellamy.
Plymouth	29.81	757.2	29.89	759.2	46.0	7.8	.....	WSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	29.75	755.6	29.80	756.9	45	7.2	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	½ covered...	W. Kennedy.
Saint Ann's Head	29.65	753.1	29.81	757.2	46	7.8	.....	W	.....	.....	7	.....	1	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.42	747.3	39.8	4 3	.....	SW	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.90	759.4	34.0	1.1	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Sergt. W. H. Lyne.
Sheffield	29.36	745.7	29.65	753.1	41.7	5.4	.....	WSW	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast.....	W. F. Cooper.
Silloth Rectory	29.56	750.8	29.59	751 6	38.9	3.8	90	SW	.....	.....	3	.....	8	.....	.....	0	0	D. clouds.....	F. H. Redford.
Stonyhurst, Observatory	29.23	742.4	29.69	754.1	40.9	4.9	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	Rev. S. J. Perry.
Strathfield Turgiss	29.52	749 8	29.74	755.4	44.5	6.9	.....	SW	.....	.....	3-4	.....	4	.....	.....	.....	.....	Squally.....	Rev. C. H. Griffith, F.M.S
Thurso	29.36	745.7	29.42	747 3	39	3.9	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.92	760.0	47	8.3	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	29.84	757.9	29.86	758.4	47.5	8.6	.....	W	8	3.6	.....	.....	4	.....	.....	Blank	Blank	D. clouds.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.71	754.6	72.0	22.2	100	SW	.....	.....	3	.....	7k	.....	.....	0	0	Covered.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.53	750 0	40.2	4.6	.....	W	.....	.....	2	.....	10s	.....	.....	0	0	Hazy.....	Andrew Gibb.
Mauritius, Observatory	29.80	756.9	29.99	761.7	81.6	27.6	64	ESE	17.5	7.8	.....	0	8	.....	ESE	0.08	2.0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	64.6	18.1	80	SW	17	7.6	.....	.....	2	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.55	750.6	43	6.1	.....	WNW	.....	.....	6	5	0	W	.....	0.1	3.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Rather.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	61.7	16.5	84	NE	.....	.....	1	6cs	.....	NE	.....	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.88	758.9	29.93	760.1	29.7	— 1.3	71	SE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Fanöe	29 09	754.2	29.71	754.7	32.4	0.2	98	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Rain & snow	
Godthaab, (Greenland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vestervig	29.62	752.4	29.79	756.7	29.8	— 1.2	92	SE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.52	749.7	30.07	763.7	41.0	5	93	W	.....	.....	1	.....	0	.....	.....	0.232	5.9	Clear	Collignon, Director.
Amiens, Normal School	29.77	756.2	29.88	759.0	45.0	7.2	83	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	30.12	765.0	30.20	767.0	39.2	4	77	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Girard, Director.
Bar-sur-Seine	29.48	748.8	30.06	763.6	43.7	6.5	73	W	.....	.....	1	.....	8kn	.....	W	0.110	2.8	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29 66	753.4	29.95	760.7	45.3	7.4	76	W	.....	.....	2	.....	8	.....	W	0.217	5.50	Very cloudy	rer Eugene Marie, Dir.
Besançon, Normal School	29.22	742.2	30.13	765.4	42.4	5.8	88	S	.....	.....	2	.....	10	.....	SW	0.12	3.	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.31	744.4	30.22	767.5	42.6	5.9	97	S	.....	.....	1	.....	10kn	W	W	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet Director.
Brest, Naval Observatory	29.74	755.4	29.97	761.5	50.4	10.2	79	WSW	.....	.....	2	.....	6	.....	WSW	0.374	9.50	Hailing	M.de Rermaur, Director.
Carcassonne, Normal School	29.83	757.6	30.25	768.3	52.9	11.6	61	SW	.....	.....	1	.....	2	W	W	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	29.88	758.9	29.95	760.8	46.0	7.8	69	NW	.....	.....	3	.....	5	.....	E	0.28	7.	Cloudy	M. Lair, Director.
Chartres, Normal School	29.42	747.2	30.00	762.0	44.2	6.8	77	SSW	.....	.....	3	.....	2	.....	E	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.5	29.99	761.8	44.2	6.8	79	W	.....	.....	2	.....	8	W	W	0.181	4.6	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D.Obs	28.76	730.6	30.15	765.8	47.1	8.4	65	W	.....	.....	1	.....	8	.....	W	0.047	1.2	Very cloudy	Alluard, Director.
Commercy, Normal School	29.19	741.5	30.09	764.2	38.3	3.5	97	WSW	.....	.....	3	.....	8kn	.....	WSW	0.28	7.	Light rain	Dr. Coulet, Director.
Commune de Grèasque*	29 03	737.4	30.17	766.4	46.8	8.2	50	N	.....	.....	2	.....	8	.....	NW	0	0	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.42	747.2	30.23	767.7	35.6	2	.....	NNW	.....	.....	1	.....	10n	.....	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.93	760.2	30.15	765.8	48.9	9.4	76	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.76	755.9	30.08	763.9	46.4	8	100	W	.....	.....	1	.....	2	.....	W	0.134	3.4	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.20	741.8	30.15	765.7	43.0	6.1	76	SW	.....	.....	4	.....	8	.....	W	0.20	5.	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	29.99	761.7	30.09	764.2	50.7	10.4	74	W	.....	.....	4	.....	.....	SE	W	0.307	7.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	. Galzin, Director
Mirecourt, Normal School	28.95	735.2	30.02	762.6	40.1	4.5	83	NE	.....	.....	3	.....	kn	.....	SW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.95	760.6	30.15	765.8	52.2	11.2	61	S	.....	.....	1	.....	5	.....	SE	0	0	Cloudy	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25 14	638.6	.....	.....	29.8	— 1.2	100	W	.....	.....	10	.....	.....	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.16	766.0	30.19	766.8	51.6	10.9	82	W	.....	.....	1	.....	2	W	W	0	0	¾ covered	Lt. Decante, Director.
Rouen, Normal School	29.85	758.3	29.94	760.5	44.6	7.0	75	WNW	.....	.....	2	.....	8	.....	W	0.354	9.0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.98	761.6	30.01	762.3	66.6	19.2	62	SW	.....	.....	3	.....	1	WSW	WSW	0.241	6.12	Clear	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.83	757.7	30.00	761.9	45.7	7.6	70	SW	.....	.....	2	.....	.....	W	W	0.114	2.9	.....	E. Renou, Director.
Tarbes, Normal School	29.16	740.6	30.24	768.2	53.6	12.0	43	W	.....	.....	2	.....	2	SSW	W	0	0	Slightly cl'dy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.36	745.7	30.12	765.1	46.2	7.9	89	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.32	8.	.....	L'Abbé Marchès.
Lyons, Observatory	.....	.....	30.19	766.7	38.8	3.8	78	NNW	.....	.....	1	.....	10	.....	.....	0	0	Misty	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Stad.
Mont-Louis	24.95	633.6	30.26	768.6	39.6	4.2	65	SSW	9.4	4.2	.....	.....	2	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	30.05	763.3	53.6	12.0	74	W	.....	.....	1	.....	8	.....	.....	0	0	¾ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.71	754.6	.....	.....	45.9	7.7	71	WSW	.....	.....	4	.....	4	.....	W	0.114	2.9	.....	Marié Davy, Director
Perpignan	30.10	764.6	30.21	767.2	56.7	13.7	62	N	26.2	11.7	.....	.....	4	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Brylac.
Pic du Midi, (Plantade) H. P	22.58	573.7	.....	.....	31.3	— 0.4	.....	W	.....	.....	1	.....	8	.....	.....	0	0	Fair	Gen'l de Nansouty.
Toulouse, Observatory	29.56	750.9	30.29	769.4	52.9	11.6	74	W	.....	.....	3	.....	9	.....	.....	0	0	.....	M. Mercadier Julien
Tours	29.89	759.3	30.09	764.3	47.8	8.8	69	W	.....	.....	3	.....	2	.....	W	0.150	3.8	.....	C. Marquet.
Versailles Observatory	.....	.....	30.00	761.9	45.7	7.6	.....	W	.....	.....	3	.....	7	.....	.....	0.164	4.17	Fair	Dr. A. Bernay, Director
Zi-Ka-Wei, (near Shanghai)	30.15	765.9	30.18	766.5	37.4	3.0	95	ENE	5.6	2.5	.....	.....	0	.....	.....	0	0	Clear	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.2	29.90	759.5	34.7	1.5	96	S	.....	.....	3	.....	10	SW	.....	0.079	2.0	Raining	Prof. Dr. Hoh.
Berlin	29.74	755.5	29.92	760.1	29.5	— 1.4	82	S	.....	.....	1	.....	10	.....	.....	0	0	....	Prof. Arndt.
Breslau	29.51	749.5	30.04	763.0	22.1	— 5.5	100	SSE	.....	.....	4	.....	0	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.51	749.5	29.95	760.7	39.6	4.2	89	SW	.....	.....	3	.....	10	SW	.....	0.315	8.0	Raining	Albert Senx.
Cassel	29.19	741.4	29.80	756.8	36.7	2.6	89	SSW	.....	.....	2	.....	10	SW	.....	0.036	0.92	Rain & snow	Dr. H. Möhl.
Crefeld	29.59	751.6	29.75	755.7	40.6	4.8	92	SW	.....	.....	4	.....	10	.....	.....	0.16	4.	.....	Director Losse.
Emden	.....	.....	.....	.....	35.6	2.0	95	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.33	750.0	29.91	759.6	37.9	3.3	.....	SSW	.....	.....	2	.....	8	.....	.....	0.110	2.8	.....	Physical Society.
Friedrichshafen	28.59	726.2	30.08	764.0	37.4	3.0	78	W	.....	.....	7	.....	10	W	.....	0.008	0.2	... .	M. Wilhelm.
Hamburg	29.71	754.6	29.78	756.5	31.8	— 0.1	98	SE	.....	.....	4	.....	10	.....	.....	0.059	1.5	Snowing.....	Captain F. Hegemann
Kiel	29.77	756.1	29.78	756.5	32.4	0.2	93	SE	.....	.....	3	.....	10	.....	.....	0.076	1.93	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.11	764.7	30.19	766.9	24.8	— 4.0	89	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. E Luther.
Köslin	.....	.....	30.00	762.1	27.3	— 2.6	.....	SE	.....	.....	4	.....	4	....	.....	0	0	....	H. Müller.
Leipsic, Observatory	29.46	748.2	29.89	759.3	33.4	0.8	75	S	.....	.....	2	.....	10	.....	.....	0.016	0.4	....	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.17	766.4	30.22	767.6	25.2	— 3.8	84	SE	.....	.....	1	.....	10ks	.....	.....	.....	.....	Hazy.....	Skalweit.
Neufahrwasser	30.16	766.0	30.17	766.4	28.9	— 1.7	92	SE	.....	.....	1	.....	10	.....	.....	0	0	Dust-haze...	A. Lothes.
Posen	29.77	756.2	30.08	764.0	27.9	— 2.3	95	S	.....	.....	2	.....	8	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.46	748.2	30.02	762.6	40.5	4.7	85	SW	.....	.....	3	.....	10	W	.....	.....	.....	Raining.....	Imp. University Observatory.
Stuttgart	28.98	736.1	29.95	760.6	41.0	5.0	76	W	.....	.....	4	.....	7	W	.....	0.067	1.7	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.40	721.3	29.95	760.7	37.0	2.8	80	W	4.5	2	.....	.....	10	.....	W	0.028	0.7	.....	Dr. Van Bebber.
Wustrow, Naval School	29.85	758.2	29.87	758.8	22.3	— 5.4	98	SE	.....	.....	1	.....	10 fog	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.56	750.9	29.96	761.0	52.2	11.2	.....	NE	.....	.....	1.0	.....	.....	.....	.....	.....	.....	⅛ Clear.....	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.95	760.7	30.00	762.0	72.1	22.3	60	NNW	.....	.....	.....	.....	1	.....	.....	0	0	D. clouds.....	
Deesa	29.52	749.8	30.01	762.2	74.2	23.4	24	NW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.90	759.5	29.94	760.5	76.5	24.7	85	NW	17.0	7.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.90	708.7	29.90	759.6	79.6	26.4	.....	E	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.26	743.1	30.03	762.8	61.6	16.4	46	NE	1.4	0.6	.....	.....	6	.....	.....	0	0	Cloudy.....	
Belgaum	27.40	695.9	29.94	760.5	76.3	24.6	48	Calm	0	0	.....	.....	1	.....	.....	0	0	D. clouds.....	
Roorkee	29.03	737.4	29.95	760.8	72.2	22.3	37	SE	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.40	746.6	29.98	761.4	68.7	20.4	56	E	.....	.....	.....	.....	6	.....	E	0	0	.....	
Nagpur	28.92	734.5	29.97	761.2	78.6	25.9	38	Calm	1.6	0.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.60	751.8	29.98	761.5	70.3	21.3	32	NNW	1.4	0 6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.66	753.4	29.98	761.6	68.0	20.0	59	Calm	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.79	756.8	29.98	761.5	68.9	20.5	45	W	3.4	1.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.92	709.1	29.98	761.4	68.8	20.4	36	NW	5.5	2.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.88	758.9	29.96	761.0	75.0	23.9	56	Calm	1.1	0.5	.....	.....	2	.....	.....	0	0	D. clouds.....	
Calcutta (Alipore)	29.93	760.2	29.95	760.8	66.8	19.3	71	N	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	70.3	21.3	65	Calm	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.84	757.8	29.93	760.2	69.3	20.7	60	NNW	4.2	1.9	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.64	752.9	29.99	761.8	63.2	17.3	83	ENE	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.57	725.6	29.95	760.8	73.8	23.2	50	Calm	2.6	1.2	.....	.....	2	.....	.....	0	0	D. clouds.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,952.4 feet, or 606.3 meters: Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.0	30.04	762.9	41.7	5.4	56	E	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.93	760.1	30.04	763.0	38.7	3.7	61	NNE	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.51	749.6	30.06	763.4	36.7	2.6	73	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.11	739.3	30.06	763.4	36.1	2.3	82	NNW	4.3	1.9	.....	.....	5	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.06	712.6	30.04	763.1	39.0	3.9	54	NE	.....	.....	2	.....	6	WNW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.84	758.0	30.04	763.1	51.3	10.7	78	SE	3.8	1.7	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Leghorn	29.80	756.8	30.07	763.6	44.1	6.7	71	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	Cav. F Meucci
Pesaro	29.95	760.8	30.04	763.1	48.2	9.0	84	NE	2.5	1.1	.....	.....	8	.....	.....	0	0	.....	Prof. P. Monte.
Rome	30.01	762.2	30.06	763.5	36.9	2.7	89	NW	10.5	4.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Lecce	29.89	759.1	30.07	763.7	51.1	10.6	74	N	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. P S. Ferrari.
Cagliari	29.81	757.1	30.07	763.7	50.9	10.5	57	N	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.90	759.4	30.10	764.4	57.4	14.1	64	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.19	741.5	30.10	764.4	55.4	13.0	75	SW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Syracuse	29.89	759.1	30.15	765.7	55.2	12.9	66	ENE	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. G. Cacciatore.
	30.02	762.6	30.10	764.5	55.2	12.9	71	SW	4.9	2.2	.....	.....	5	WNW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.56	750.8	30.11	764.9	52.2	11.2	73	WSW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.84	757.9	29.86	758.4	45.2	7.3	86	N	4.2	1.9	.....	.....	10n	.....	.....	0.380	9.65	Raining	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.83	757.7	30.04	763.0	47.7	8.7	67	NW	11.4	5.1	.....	.....	1s	.....	.....	0.010	0.25	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.55	750.6	29.62	752.3	40.5	4.7	98	NW	3.5	1.6	.....	.....	10n	.....	SSW	0.915	23.24	Heavy rain.	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.07	636.8	30.25	768.4	43.2	6.2	57	.....	.....	.....	.....	0	0	.....	.....	0	0	Very clear.	Prof. L. Perez.
Leon	24.44	621.0	30.10	764.7	53.6	12.0	72	NNW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.24	768.0	44.6	7.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	44.6	7.0	50	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.98	761.5	29.99	761 8	67.6	19.8	92	Calm	.....	.....	0	0	0	.....	.....	0	0	Foggy	M. M. Cházaro.
San Luis Potosi	24.21 ?	614.33	29.46?	748.7?	46.0	7.8	77	SE	.....	.....	.....	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz	29.99	761.6	30.02	762.3	71.6	22.0	91	Calm	0	0	.....	.....	10sk	.....	.....	0	0	Covered	Prof. J. Rossell.
Zacatecas	22.58	573.6	.....	.....	53.6	12	56	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.49	596 6	30.19	766.0	39.2	4.0	93	ENE	0.4	0.2	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.4	30.07	763.8	73.0	22.8	66	NE	.....	.....	2	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.95	760.8	30.08	764.2	64	17.8	.....	Calm	.....	.....	0	7n	8n	E	.....	0.122	3.1	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,558.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	29.74	755.3	29.74	755.3	41.4	5.2	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0.220	5.6	.....	
Groningen	29.61	752.2	29.67	753.6	37.0	2.8	.....	S	.....	.....	2	.....	.....	.....	.....	0.024	0 6	.....	
Helder	29.63	752.5	29.63	752.5	39.2	4.0	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.146	3.7	.....	
Hellevoetsluis	29.70	754.4	29.70	754.4	39.7	4.3	91	WSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.67	753.5	29.71	754.7	39.6	4.2	92	SSW	.....	.....	4	.....	10	.....	.....	0.307	7.8	Overcast	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.58	751.2	29.63	752.6	43.5	6.4	51	S	10.1	4.5	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.77	756.2	29.81	757.2	36.9	2.7	60	ENE	9	4	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.87	758.7	30.02	762.6	29.7	— 1.3	88	ESE	2	1	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.85	758.3	29.90	759.4	23.9	— 4.5	61	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.89	759.1	30.08	764.0	61.2	16.2	94	W	9.4	4.2	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.26	743.2	29.90	759.5	55.9	13.3	68	ENE	0.7	0.3	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.26	768.5	30.34	770.7	64.4	18.0	60	SE	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.96	761.0	30.33	770.3	49.6	9.8	100	Calm	1.3	0.6	.....	.....	10	.....	.....	0.004	0.1	.....	The Staff.
Ponta Delgada, (Azores)	30.12	765.0	30.19	766.8	62.2	16.8	90	SW	25.5	11.4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	30.01	762.3	76.6	24.8	.....	NE	.....	.....	3	.....	9	.....	NE	3	NE	D. clouds	A. Ferreira, 2nd Lt.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Quanza, Ajuda, Upper Guinea	.....	.....	29.89	759.2	84.2	29.0	.....	WSW	.....	.....	2	.....	2	.....	E	2	SSW	D. clouds	A. J. de Mattos, Com'd't.
Sá da Bandeira, Saint Paul de Loando	.....	.....	29.79	756.6	86.0	30	.....	W	.....	.....	3	.....	6	.....	.....	0	.....	D. clouds	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.09	764.2	61.2	16.2	.....	E	.....	.....	2	.....	2	.....	E	1	.....	Blue sky	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.71	754.7	30.16	766.1	27.9	— 2.3	83	E	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.76	755.8	30.21	767.2	23.9	— 4.5	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	30.07	763.6	30.33	770.4	16.0	— 8.9	91	SE	4	2	.....	.....	10n	.....	.....	.....	.....	Foggy	Prof. Dr. Weihrauch.
St. Petersburg	30.29	769.3	30.30	769.7	23.7	— 4.6	93	SSW	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.33	744.9	30.00	762.1	26.4	— 3.1	98	E	4	2	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Nikolaiev	29.82	757.3	29.89	759.1	32.4	0.2	96	NE	13	6	.....	.....	10n	.....	.....	.....	.....	Raining	Kurdakof.
Kertch	29.79	756.7	29.81	757.2	40.6	4.8	84	ENE	11	5	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.95	760.8	30.56	776.2	12.6	—10.8	90	SW	13	6	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.95	760.6	30.17	766.3	14.4	— 9.8	74	ESE	45	20	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.35	770.9	30.37	771.4	14.7	— 9.6	91	S	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.70	728.9	30.15	765.8	44.1	6.7	74	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.45	773.4	30.37	771.3	23.7	— 4.6	90	E	25	11	.....	.....	9ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.19	766.7	30.71	780.0	12.2	—11.0	78	SE	7	3	.....	.....	10	.....	.....	.....	.....	Light snow	Cand. Fatjanow.
Kasan	30.43	772.9	30.73	780.5	13.5	—10.3	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Ekaterinburg	29.52	749.8	30.58	776.6	14.9	— 9.5	80	WNW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nukuss	30.19	766.7	30.44	773.2	26.2	— 3.2	70	ENE	9	4	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.76	730.6	30.59	776.9	30.9	— 0.6	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Teich, A. M.
Barnaul	30.09	764.3	30.70	779.7	— 8.1	—22.3	79	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.98	761.8	30.33	770.3	—14.4	—25.8	82	WNW	4	2	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.90	759.5	30.04	763.1	32.4	0.2	64	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.12	765.1	30.21	767.3	—11.2	—24.0	56	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.08	764.0	30.19	766.7	53.1	11.7	62	S	2.0	0.89	.....	.....	2	.....	.....	0	0	.....	Antonio Rave, Directo
Bilbao, Met. Obs'y	30.23	767.7	30.28	769.2	54.1	12.3	78	SE	1.4	0.64	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	693.0	.....	.....	42.8	6.0	88	SW	6.2	2.76	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	28.02	711.8	.....	.....	46.4	8.0	96	E	0	0	.....	0?	0?	.....	.....	0.008	0.2	Almost cov. ?	The Staff.
Murcia, Met. Obs'y	30.08	764.1	30.23	767.9	66.4	19.1	52	ENE	1.8	0.81	.....	2	3	NW	.....	0	0	.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.32	744.7	30.23	767.9	51.6	10.9	86	SW	5.6	2.5	.....	.....	10	.....	.....	0.071	1.8	Covered	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I.	30.08	763.9	30.14	765.6	64.2	17.9	88	WSW	1.1	0.5	.....	2ck	1k	.....	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.81	757.2	29.86	758.5	79.0	26.8	78	E	4.5	2.0	.....	0	0	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.18	766.8	30.29	769.4	55.4	13.0	72	NW	2.7	1.2	.....	3	2	NW	NW	0	0	.....	Capt. C. Pulazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	75.2	24.0	92	E	0	0	.....	3c	3k	E	E	0.177	4.50	D. clouds	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.11	764.9	30.15	765.9	20.5	— 6.4	.....	S	.....	.....	2	.....	10	.....	.....	0.118	3.0	.....	
Umea	30.07	763.8	30.12	765.1	23.7	— 4.6	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	30.04	762.9	30.09	764.2	25.0	— 3.9	93	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.97	761.3	30.15	765.8	24.6	— 4.1	98	Calm	.....	.....	0	.....	10	.....	.....	0.039	1.0	.....	
Wisby	30.04	763.1	30.10	764.6	31.6	— 0.2	96	ESE	.....	.....	4	.....	10	.....	.....	0.012	0.3	Snowing	
Sub-Series.																			
Upsala	30.08	763.9	30.15	765.8	23.7	— 4.6	98	ESE	3.1	1.4	.....	.....	9	.....	SW	0.001	0.02	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.71	729.2	30.17	766.2	44.2	6.8	58	SSW	.....	.....	3	.....	9	.....	.....	0.004	0.1	Covered	The Observatory.
Zurich	28.43	722.1	30.13	765.3	35.6	2.0	92	SW	.....	.....	2	.....	10	.....	.....	0.118	3.0	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.6 mm.; Thermometer, +5.4 cent.; Relative Humidity, —21 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.94	760.4	33.8	1.0	96	NNW	13	6.0	.....	.....	10	.....	N	0.220	5.6	Snowing	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.00	762.1	48.4	9.1	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.74	755.4	29.86	758.4	70.0	21.1	61	SW	.....	.....	2	.....	3c;ks	.....	SW	0	0	.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	29.87	758.7	29.94	760.5	— 8.5	—22.5	79	NW	6.7	3.0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	30.18	766.6	30.55	776.0	—18	—27.8	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.91	759.7	29.98	761.5	—11	—23.9	91	W	2	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.77	756.1	29.82	757.4	— 2	—18.9	100	W	12	5.4	.....	.....	8ks	.....	W	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.26	768.6	30.49	774.4	—17.0	—27.2	100	NW	.....	.....	2	0	0	.....	.....	0	0	Fine	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.91	759.7	29.96	761.0	34.1	1.2	100	NE	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.06	763.5	30.08	764.0	— 8	—22.2	55	NW	20	8.9	.....	8k	2s	N	NW	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.08	764.0	—10.4	—23.6	91	W	12.0	5.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.40	746.7	30.36	771.1	—16	—26.7	95	S	5	2.2	.....	Haze	5n	S	S	0	0	Hazy	James Stewart.
Granton, Ontario	29.21	741.9	30.42	772.6	10.5	—11.9	.....	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.71	754.6	29.86	758.4	3	—16.1	95	NW	23	10.3	.....	.....	10n	.....	N	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	30.08	764.0	30.50	774.7	6.3	—14.3	78	NE	.....	.....	2	10cs	0	NE	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	29.33	745.0	29.36	745.7	20	— 6.7	100	W	.....	.....	2	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	30.13	765.3	30.52	775.2	—10	—23.3	51	N	1	0.4	.....	0	0	.....	.....	0.0	0.3	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.58	751.3	29.62	752.3	11.2	—11.6	94	N	18	8.0	.....	6k	0	N	.....	0.20	5.1	.....	C. H. Rigby.
Moose Factory, Ontario	30.26	768.6	30.30	769.6	—24.4	— 4.2	100	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	J. R. Nason.
*Montreal, Quebec	30.22	767.6	30.46	773.3	—14	—25.6	100	W	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.72	754.9	30.56	776.2	—24	—31.1	65	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.67	753.6	30.55	776.0	13.5	—10.3	100	Calm	.....	.....	.....	0	0	.....	.....	.....	.....	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.68	753.9	30.45	773.4	12	—11.1	100	N	10	4.5	.....	.....	Haze	.....	.....	Inap.	Inap.	Cloudy	H. Morgan.
Port Hastings, N. S	29.64	752.8	29.70	754.4	9.7	—12.4	.....	NW	20	8.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.71	754.6	30.42	772.6	14	—10.0	82	E	.....	.....	.....	.....	10n	.....	E	Inap.	Inap	Cloudy	M. Payne.
*Quebec, Quebec	29.92	760.0	30.30	769.6	—18	—27.8	69	NW	.....	.....	5	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.99	761.7	30.54	775.7	—25	—31.7	100	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.02	762.5	30.07	763.8	— 3	—19.4	69	NW	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.85	758.2	30.04	763.0	— 6	—21.1	100	NW	.....	.....	4	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Sangeen, Ontario	29.63	752.6	30.42	772.6	9	—12.8	85	SE	10	4.5	.....	.....	10ks	.....	.....	0.07	1.8	Cloudy	K. Stewart.
Stayner, Ontario	29.62	752.3	30.50	774.	1	—17.2	77	E	4	1.8	.....	5k	2n	NW	E	0.13	3.3	Cloudy	R. J. Cole.
Stratford, Ontario	29.00	736.6	30.41	772.4	9.3	—12.6	92	E	4	1.8	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A
*Sydney, C. B	29.60	751.8	29.64	752.8	13	—10.6	70	NW	11	4.9	.....	5cs	8ks	W	W	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	30.09	764.3	30.53	775.4	0	—17.8	73	N	12	5.4	.....	.....	0	NW	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	29.79	756.7	29.89	759.2	1.5	—16.9	100	W	18	8.0	.....	10k	0	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	21.0	— 6.1	86	W	.....	.....	.....	9k	4s	.....	.....	0.06	1.5	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUD. Amount. Up'er 0—10.	CLOUD. Amount. Low'r 0—10.	CLOUD. Direction. Upper. From—	CLOUD. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inch's.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim's.	WEATHER.	OBSERVER.
Albany, New York	30.10	764.5	30.36	771.1	5	—15.0	75	N	4	1.8	.....	1c	0	NW	.....	0.02	0.5	Clear	
Alpena, Michigan	29.70	754.4	30.43	772.9	1	—17.2	71	Calm	0	0	.....	0	0	.....	.....	0.15	3.8	Clear	
Atlanta, Georgia	28.99	736.3	30.17	766.3	40	4.4	82	NW	8	3.6	.....	2c	8m'c;fg	.....	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.30	769.6	30.31	769.9	28	— 2.2	77	NW	4	1.8	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Augusta, Georgia	30.01	762.2	30.19	766.8	37	2.8	81	W	2	0.9	.....	0	2s;sm'c	.....	Calm	0	0	Fair	
Baltimore, Maryland	30.31	769.9	30.37	771.4	34	1.1	90	NW	2	0.9	.....	.....	10s;fog	.....	Calm	0	0	Foggy	
Barnegat, New Jersey	30.30	769.6	30.32	770.1	27	— 2.8	76	NW	8	3.6	.....	5k	5s	NW	Calm	0	0	Cloudy	
Bismarck, Dakota	28.20	716.3	30.05	763.3	— 7	—21.7	100	E	3	1.3	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Boerne, Texas	28.42	721.9	29.71	754.6	61	16.1	94	S	16	7.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Boise City, Idaho	27.31	693.7	30.27	768.8	5	—15.0	87	S	5	2.2	.....	5cs	0	Calm	.....	0.37	9.4	Fair	
Boston, Massachusetts	30.08	764.0	30.25	768.3	8.0	—13.3	55	NW	12	5.4	.....	2cs	0	Calm	.....	0	0	Clear	
Brackettville, Texas	28.52	724.4	29.52	749.8	60	15.6	94	SE	4	1.8	.....	.....	Fog	.....	SE	0	0	Dense fog	
Breckenridge, Minnesota	29.10	739.1	30.27	768.8	0	—17.8	86	SE	6	2.7	.....	0	8ks	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	29.89	759.2	29.96	761.0	65	18.3	94	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.69	754.1	30.47	773.9	9	—12.8	78	NE	8	3.6	.....	.....	10s	.....	NW	0.10	2.5	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	36	2.2	22	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.13	765.3	30.47	773.9	—10	—23.3	76	N	14	6.3	.....	2k	0	NW	.....	Inap.	Inap	Fair	
Cairo, Illinois	29.71	754.6	30.12	765.0	36	2.2	90	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.10	637.5	29.90	759.4	35	1.7	61	NW	4	1.8	.....	8cs	0	NW	.....	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	21	— 6.1	43	N	.....	.....	1	5k	0	Calm	.....	0	0	Fair	
Campo, California	27.53	699.0	30.10	764.5	26	— 3.3	77	SW	4	1.8	.....	0	0	.....	.....	0.24	6.1	Clear	
Cape Hatteras, N. Carolina	30.30	769.6	30.30	769.6	40	4.4	91	NE	16	7.2	.....	1cs	Haze	N	.....	0	0	Clear	
Cape Henry, Virginia	30.30	769.6	30.32	770.1	33	0.6	79	NE	15	6.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.24	768.1	30.26	768.6	39	3.9	91	NE	28	12.5	.....	0	2ks	.....	NE	0	0	Fair	
Cape May, New Jersey	30.32	770.1	30.35	770.9	30	— 1.1	78	NW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.09	738.9	29.78	756.4	63	17.2	94	S	4	1.8	.....	.....	10s	.....	S	0.02	0.5	Threatening	
Charleston, South Carolina	30.15	765.8	30.22	767.6	47	8.3	77	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.75	603.2	29.69	754.1	14	—10.0	82	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Chicago, Illinois	29.48	748.8	30.22	767.6	80	— 1.1	78	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Cincinnati Ohio	29.58	751.3	30.27	768.8	34	1.1	70	E	5	2.2	.....	.....	10s	.....	E	0	0	Cloudy	
Cleveland, Ohio	29.59	751.6	30.38	771.6	20	— 6.7	85	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.03	711.9	29.66	753.4	54	12.2	93	SW	5	2.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.40	746.7	30.29	769.4	28	— 2.2	89	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corpus, Texas	27.88	708.1	29.52	749.8	60	15.6	76	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Corsicana, Texas	29.40	746.7	29.86	758.4	59	15.0	100	SE	7	3.1	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Davenport, Iowa	29.49	749.0	30.17	766.3	21	— 6.1	71	E	10	4.5	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Deadwood, Dakota	25.15	638.8	.....	.....	—11	—23.9	52	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.64	727.4	29.78	756.4	58	14.4	94	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Threatening	
Denison, Texas	29.03	737.3	29.81	757.2	57	13.9	100	SE	9	4.0	.....	.....	10s	.....	Calm	0.0	0.5	Cloudy	
Denver, Colorado	24.53	623.0	29.75	755.6	5	—15.0	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.08	738.6	30.02	762.5	19	— 7.2	85	E	8	3.6	.....	.....	10n	.....	Calm	0.12	3.0	Light snow	
Detroit, Michigan	29.64	752.8	30.37	771.4	20	— 6.7	85	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.22	691.4	29.63	752.6	17	— 8.3	100	N	20	8.9	.....	.....	Fog	.....	N	0	0	Foggy	
Dubuque, Iowa	29.42	747.2	30.18	766.6	19	— 7.2	85	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.60	751.8	30.38	771.6	0	—17.8	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.08	738.6	29.80	756.9	61	16.1	94	SW	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
Eastport, Maine	30.02	762.5	30.09	764.3	— 4	—20.0	65	NW	12	5.4	.....	2k	0	NW	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	66	18.9	84	S	.....	.....	6	.....	10ks	.....	S	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	45	7.2	67	NW	11	4.9	.....	2c	0	NW	.....	0.16	4.1	Fair	
Erie, Pennsylvania	29.64	752.8	30.42	772.7	17	— 8.3	83	NE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.68	753.9	30.42	772.7	2	—16.7	72	N	5	2.2	.....	5cs	0	NE	.....	0.03	0.8	Fair	
Florence, Arizona	28.61	726.7	30.21	767.3	33	— 0.6	70	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota Ter.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.38	644.6	29.44	747.8	30	— 1.1	89	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	24.99	634.7	29.95	760.7	54	12.2	53	SW	11	4.9	.....	8k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter.	29.24	742.7	29.77	756.1	45	7.2	92	S	12	5.4	.....	.....	10s	.....	S	0.06	1.5	Threatening	
Fort Griffin, Texas	28.52	724.4	29.80	756.9	45	7.2	76	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort Keogh, Montana Ter.	.....	.....	.....	.....	—11	—23.9	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.78	700.5	29.44	747.8	60	15.6	77	S	16	7.2	.....	5k	0	NE	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.54	724.9	29.66	753.4	41	5.0	100	S	4	1.8	.....	.....	Fog	.....	S	0	0	Dense fog	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.11	714.0	29.63	752.6	62	16.7	61	S	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.96	761.0	30.01	762.2	55	12.8	93	SE	8	3.6	.....	0	8s	.....	SE	0	0	Cloudy	
Graham, Texas	28.70	729.0	29.73	755.1	54	12.2	93	S	4	1.8	.....	5ck	5s	SW	SW	0	0	Cloudy	
Grand Haven, Michigan	29.61	752.1	30.31	769.9	19	— 7.2	69	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.37	746.0	30.19	766.8	32	0.0	79	E	4	1.8	.....	.....	10n	.....	Calm	Inap.	nap.	Light snow	
Indianola, Texas	29.96	761.0	29.98	761.5	62	16.7	94	SE	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksboro, Texas	28.62	726.7	29.73	755.1	55	12.8	79	S	8	3.6	.....	5cs	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.17	766.3	30.20	767.1	43	6.1	83	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.38	746.2	30.03	762.8	22	— 5.6	86	E	16	7.2	.....	.....	10n	.....	Calm	0.11	2.8	Light snow	
Key West, Florida	30.13	765.3	30.17	766.3	62	16.7	94	NE	11	4.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Kittyhawk North Carolina	30.28	769.1	30.31	769.9	38	3.3	72	NE	25	11.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Knoxville, Tenne-see	29.14	740.1	30.20	767.1	35	1.7	85	NE	1	0.4	.....	10cs	Fog	Calm	.....	0	0	Smoky	
La Crosse, Wisconsin	29.46	748.3	30.28	769.1	10	—12.2	79	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	37	2.8	90	NW	1	0.4	.....	5ks	0	NW	.....	0.26	6.6	Fair	
Laredo, Texas	29.44	747.8	29.78	756.4	64	17.8	89	SE	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy	
Leavenworth, Kansas	28.97	735.8	29.84	757.9	29	— 1.7	89	E	5	2.2	.....	.....	10n	.....	.....	0.07	1.8	Sleeting	
Los Angeles, California	29.80	756.9	30.15	765.8	40.0	4.4	56	E	7	3.1	.....	0	0	.....	.....	0.29	7.4	Clear	
Louisville, Kentucky	29.60	751.8	30.18	766.6	35	1.7	80	E	5	2.2	.....	.....	10s	.....	E	0	0	Cloudy	
Lynchburg, Virginia	29.60	751.8	30.31	769.9	37	2.8	71	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	29.20	741.7	30.28	769.1	15	— 9.4	65	NE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.61	752.1	30.38	771.6	12	—11.1	61	W	8	3.6	.....	0	5s	.....	SW	0.18	4.6	Fair	
Mason, Texas	28.20	716.3	29.89	759.2	63	17.2	83	SW	8	2.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.76	755.9	30.09	764.3	39	3.9	100	E	4	1.8	.....	.....	Fog	.....	.....	0.01	0.3	Foggy	
Milwaukee, Wisconsin	29.50	749.3	30.27	768.8	28	— 2.2	77	E	22	9.8	.....	.....	10s	.....	E	0	0	Cloudy	
Mobile, Alabama	30.16	766.1	30.21	767.3	46.5	8.1	100	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	29.98	761.5	30.22	767.6	40	4.4	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Morgantown, West Virginia	29.21	741.9	30.33	770.4	30	— 1.1	78	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.13	587.5	29.49	749.0	—26	—32.2	100	NW	66	29.5	.....	0	Fog	.....	NW	0.33	8.4	Fair	
Nashville, Tennessee	29.63	752.6	30.19	766.8	38	3.3	91	NE	1	0.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
New Haven, Connecticut	30.18	766.6	30.31	769.9	23	— 5.0	73	NW	3	1.3	.....	2c	5s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	30.22	767.6	30.28	769.1	21	— 6.1	57	NW	18	8.0	.....	5cs	1s	W	NW	0	0	Fair	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	51	10.6	93	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.19	766.8	30.25	768.3	21	— 6.1	57	W	18	8.0	.....	4cs	0	SW	.....	0	0	Fair	
New York, New York	30.16	766.1	30.35	770.9	24	— 4.4	74	NW	8	3.6	.....	10c	0	W	.....	0	0	Cloudy	
Norfolk, Virginia	30.28	769.1	30.34	770.6	33	0.6	79	NE	6	2.7	.....	5ck	5s	W	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER: Correcte for instrum'tal error and temperature.		BAROMETER: Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
	nches.	illmeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10	0—10.	From—	From—	Inches.	Millimeters.		
North Platte, Nebraska	26.99	685.5	29.75	755.6	10	—12.2	84	NE	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Light snow..	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	34.2	1.3	79	S	2	0.9	.....	.....	10n	.....	Calm	0.02	0.5	Light snow..	
Omaha, Nebraska	28.79	731.3	29.95	760.7	17	— 8.3	90	NE	8	3.6	.....	.....	10n	.....	Calm	0.03	0.8	Light snow..	
Oswego, New York	29.14	740.1	30.50	774.7	6	—14.4	76	NE	10	4.5	.....	.....	10s	.....	.....	0.02	0.5	Cloudy.....	
Pembina, Dakota	29.37	746 0	30.32	770.1	—11	—23.9	100	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair.....	
Philadelphia, Pa	30.29	769.4	30.34	770.6	29	— 1.7	78	N	.....	.....	4	.....	10ks	.....	NW	0	0	Cloudy.....	
Phœnix, Arizona	28.92	734.6	30.82	782.8	35	1.7	90	Calm	.....	.....	0	0	0	.....	.....	Inap.	Inap.	Clear.	
Pike's Peak, Colorado	17.27	438.6	29.48	748.8	— 6	—21.1	23	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	23.96	608.6	29.72	754.9	15	— 9.4	65	NW	12	5.4	.....	0	0	.....	.....	0.14	3.6	Clear.	
Pittsburg, Pennsylvania	29.49	749.0	30.36	771.1	26	— 3.3	88	NW	3	1.3	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.67	753.6	30.40	772.1	15	— 9.4	82	E	8	3.6	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy.....	
Portland, Maine	30.12	765.0	30.18	766.6	8	—13.3	78	NW	14	6.3	.....	0	Haze	.....	.....	0	0	Clear.....	
Portland, Oregon	30.03	762.8	30.19	766.9	38.0	3.3	86	SW	12	5.4	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy.....	
Prescott, Arizona	24.64	625.8	28.99	761.7	10	—12.2	79	S	4	1.8	.....	.....	10ks	.....	Calm	0.46	11.7	Cloudy.....	
Pilot Point, Texas	29.15	740.4	30.02	762.5	32	0.0	79	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	30.17	766.3	30.19	766.8	56	13.3	87	NE	5	2.2	.....	5k	5s	SE	SE	0	0	Cloudy	
Red Bluff, California	29.90	759.4	30.28	769.1	32	0.0	69	NW	8	3.6	1	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.73	755.1	29.95	760.7	63	17.2	94	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.81	757.2	30.49	774.4	10	—12.2	90	NW	3	1.3	.....	.....	10n	.....	Calm	0.05	1.3	Light snow..	
Roseburg, Oregon	29.73	755.1	30.32	770.1	37.5	3.1	76	SW	3	1.3	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy.....	
Sacramento, California	30.18	766.6	30.27	768.8	32.1	0.1	80	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.46	748.3	30.06	763.5	33	0.6	79	E	14	6.3	.....	.....	10n	.....	Calm	0.23	5.8	Sleeting.....	
St. Marks, Florida	30.18	766.6	30.20	767.1	35	1.7	100	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy.....	
St. Paul, Minnesota	29.34	745.2	30.25	768.3	10	—12.2	90	NE	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	23.5	— 4.7	67	E	1	0.4	.....	5k	2s	NW	Calm	0	0	Fair.....	
San Antonio, Texas	29.22	742.2	29.79	756.7	64	17.8	00	SE	4	1.8	.....	.....	10n	.....	Calm	0.11	2.8	Light rain..	
San Diego, California	30.13	765.3	30.20	767.1	42.0	5.6	66	N	8	3.6	.....	0	0	.....	.....	0.06	1.5	Clear	
Sandusky, Ohio	29.64	752.8	30.35	770.9	28	— 2.2	77	E	24	10.7	.....	.....	10s	.....	E	0	0	Cloudy	
Sandy Hook, New Jersey	30.31	769.9	30.34	770.6	25	— 3.9	62	N	28	12.5	.....	.....	10ks	.....	N	0	0	Cloudy	
San Francisco, California	30.20	767.1	30.27	768.8	42	5.6	74	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.05	585.5	29.59	751.6	24	— 4.4	61	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Savannah, Georgia	30.10	764.5	30.20	767.1	46	7.8	84	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Shreveport, Louisiana	29.76	755.9	29.98	761.5	56	13.3	93	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Silver City, New Mexico	24.13	612.9	30.50	774.7	30	— 1.1	68	NW	13	5.8	.....	2c	0	Calm	.....	0.42	10.7	Fair	
Smithville, North Carolina	30.22	767.6	30.26	768.6	42	5.6	83	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts	30.16	766.1	30.30	769.6	18	— 7.8	37	W	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Stockton, Texas	26.96	684.8	29.96	761.0	45	7.2	76	SW	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Thatcher's Island, Mass	30.13	765.3	30.19	766.8	10	—12.2	38	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.58	751.3	30.30	769.6	25	— 3.9	87	NE	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	38	3.3	38	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Tybee Island, Georgia	30.17	766.3	30.20	767.1	45	7.2	84	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.84	757.9	30.38	771.6	18.0	— 7.8	84	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	31	— 0.6	100	Calm	.....	.....	0	.....	10s	.....	Calm	.....	.....	Snowing.....	
Uvalde, Texas	29.00	736.6	29.81	757.2	64	17.8	83	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Vicksburg, Mississipp	29.85	758.2	30.12	765.0	50	10.0	93	SE	11	4.9	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Virginia City, Montana	24.15	613.4	29.63	752.6	— 3	—19.4	68	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Visalia, California	29.90	759.4	30.30	769.6	31.5	— 0.3	88	E	3	1.3	.....	0	0	.....	.....	0.27	6.9	Clear.....	
Washington, D. C	30.23	767.8	30.35	770.9	32	0.0	85	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	79	NW	.....	.....	1	0	0	.....	.....	0.12	3.0	Clear.	
Wilmington, N. Carolina	30.17	766.3	30.25	768.3	38	3.3	71	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	2	—16.7	72	SW	14	6.3	.....	0	0	.....	.....	0.13	3.3	Clear.....	
Wood's Holl, Mass	30.16	766.1	30.20	767.1	22	— 5.6	86	NW	30	13.4	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Yankton, Dakota	28.78	731.0	30.20	767.1	5	—15.0	75	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Yuma, Arizona	29.97	761.2	30.15	765.8	45	7.2	39	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayettville, Ark	28.23	717.0	29.63	752.6	45	7.2	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.10	764.5	30.12	765.0	69	20.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.19	766.8	30.20	767.1	75	23.9	85	Calm	0	0	.....	5c	2s	SE	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.97	761.2	30.05	763.3	80	26.7	.....	NE	9.6	4.3	.....	.....	.....	.....	.....	0	0	Fair.....	F. M Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	79	26.1	87	E	.....	.....	2	6k	8ks	E	.....	0	0	½ clouded..	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.11	764.8	30.17	766.3	—34.0	—36.7	.....	NW	6	2.7	.....	Fog	Fog	.....	.....	0	0	Foggy	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,733 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,729 (?) ft., or 532.4 (?) m.; Deadwood, (?); Decatur, 1,760 (?) ft., or 536.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.29	769.4	40	4.4	40	4.4	56	SSW	7	3.1	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Navy Yard, Pensacola, Fla.	30.38	771.6	48	8.9	48	8.9	85	NE	2	0.9	.....	.....	10	.....	N	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.28	769.1	61	16.1	12	—11.1	80	NW	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan *	29.66‡	753.4‡	.....	.....	56.5	13.6	84	SW	.....	.....	6	..	10n	.....	SW	0.16	4.1	.....	.....	Threatening	
Alliance, Smyrna, Turkey	29.86‡	758 4‡	.....	.....	52	11.1	93	NW	.....	.....	1-2	..	10	.....	Calm	.....	.....	.....	.....	Raining.....	
Ashuelot, N. 13° 43′, E. 100° 29′	29.97	761.2	85	29.4	83	28.3	71	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Canonicus, New Orleans, La	30.11	764.8	43	6.1	52	11.1	100	ENE	.....	.....	2	.....	10	.....	ENE	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y	30.28	769.1	26	— 3.3	25	— 3.9	10	WNW	12	5.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Constitution, Havre, France	29.84‡	757.9‡	.....	.....	47	8.3	92	SW	.....	.....	5	.....	2	.....	SW	.....	.....	.....	.....	Pleasant.....	
Despatch, Constantinople, Turkey	29.99‡	761.7‡	.....	.....	40	4.4	91	NW	.....	.....	4	.....	10	.....	NW	.....	.....	.....	.....	Rain & snow	
Franklin, Norfolk, Va	30.50	774.7	73	22.8	37	2.8	90	NNE	6	2.7	.....	.....	10	.....	N	0	0	.....	.....	Cloudy.	
Gettysburg, Villafranca, France	29.91‡	759.7‡	.....	.....	61	16.1	88	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	.....	D. clouds.....	
Hartford, Montevideo, Uruguay	29.61	752.1	72	22.2	67	19.4	69	SW	17.8	8.0	.....	.....	10	.....	SW	0.38	9.7	Mod'ate	SW	Cloudy.....	
Lackawana, Panama	29.73‡	755.1‡	.....	.....	77	25.0	91	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	.....	Fair	
Michigan, Erie, Pa	30.16†	766.1†	.....	.....	13	—10.6	81	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Yokohama, Japan *	29.63‡	752.6‡	.....	.....	56	13.3	87	S	.. ...	.....	4-5	.....	10	.....	S	.....	.....	.....	.....	Raining.....	
New Hampshire, Port Royal, S. C	30.18†	766.6†	.....	....	47	8.3	92	N	1	0.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	68	20.0	90	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.04	763.0	41	5.0	29	— 1.7	78	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Passaic, Washington, D. C	.....	.....	.....	.....	26	— 3.3	75	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Panama	29.88‡	758.9‡	.....	....	78	25.6	100	NNW	4.0	1.8	.....	.....	1	.....	.....	0	0	Smooth	NE	Clear.....	
Powhatan, Norfolk, Va	30.33	770.4	37	2.8	37.0	3.1	76	NE	6.5	2.9	.....	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Quinnebaug, N. 36° 15′, W. 64° 35′	30.04‡	763.0‡	.....	.....	59	15.0	49	NNW	.....	.....	4-6	.....	8	.....	NNW	.....	.....	Long mod'ate	NW	Fair.....	
Richmond, N. 35° 53′, W. 62° 30′	29.97‡	761.2‡	.....	.....	59	15.0	70	WNW	.....	.....	5	.....	8	.....	S	1.75	34.5	Heavy	N	Fair.....	
Rio Bravo, Brownsville, Texas	29.99	761.7	68	20.0	66	18.9	94	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Santee, Annapolis, Md	30.33‡	770.4‡	.....	.....	30	— 1.1	.....	S	.....	.....	0-1	.....	10	.....	W	0	0	.....	.....	Misty.....	
St. Louis, League Island, Pa	30.21	767 3	53	11.7	29	— 1.7	.....	N	3	1.3	.....	.....	10	.. ..	W	0	0	.....	.....	Cloudy.....	
Supply, N. 46° 11′, W. 10° 25′	30.13‡	765 3‡	.....	.....	54	12.2	80	W	.....	.....	3	.....	8	.....	WSW	.....	.....	Mod'ate	SW	Cloudy.....	
Trenton Villafranca, France *	30.02‡	762 5‡	.....	.....	57	13.9	63	S	.....	.....	0-1	.....	8	.....	Calm	0	0	.....	.....	Cloudy.....	
Tuscarora, Panama Bay	29.90‡	759.4‡	.....	.....	78	25.6	78	NW	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Vandalia, Boston, Mass	30.18‡	766.6‡	.....	.....	13	—10.6	100	NW	.....	.....	2	.....	2	.....	NW	.....	.....	Smooth	.....	Clear.....	
Wabash, Boston, Mass	30.26‡	768.6‡	.....	.....	8	—13.3	.....	NW	2	0.9	.....	.....	5?	.....	.....	.....	.....	.....	.....	Clear?.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 14° 46′, W. 93° 44′		30.03*	762.8*	79	26.1	95	WNW			2		3		SE		Small	WNW	Misty	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Grenada, N. 15° 44′, W. 95° 42′		30.11*	764.8*	78	25.6	??	NNE			4		0			0		ENE	Fine	R. C. Ghest, 1st Officer
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.08	764.0				NE			1–2				NW				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 42° 20′, E. 158° 54′		30.12†	765.0†	36	2.2	??	Var.			4		cs		Var.	Blank	Long	W	Overcast	Capt. W. H. Ridley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 39° 49′, W. 51° 56′		29.50	749.3	54.0	12.2	93	NW			4		5?		NW	Blank	4	NW	Clear?	L. Jahns.
S. S. Leipzig, N. 47° 01′ W. 27° 52′		29.72	754.9	52.2	11.2		NE			6		8		E	Blank	7	SE;SW	Squally	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.22*	767.6*	33	0.6	89	NE			2		8		NE	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool		29.65†	753.1†	44	6.7	100	NW			3		2		SE	Blank			Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

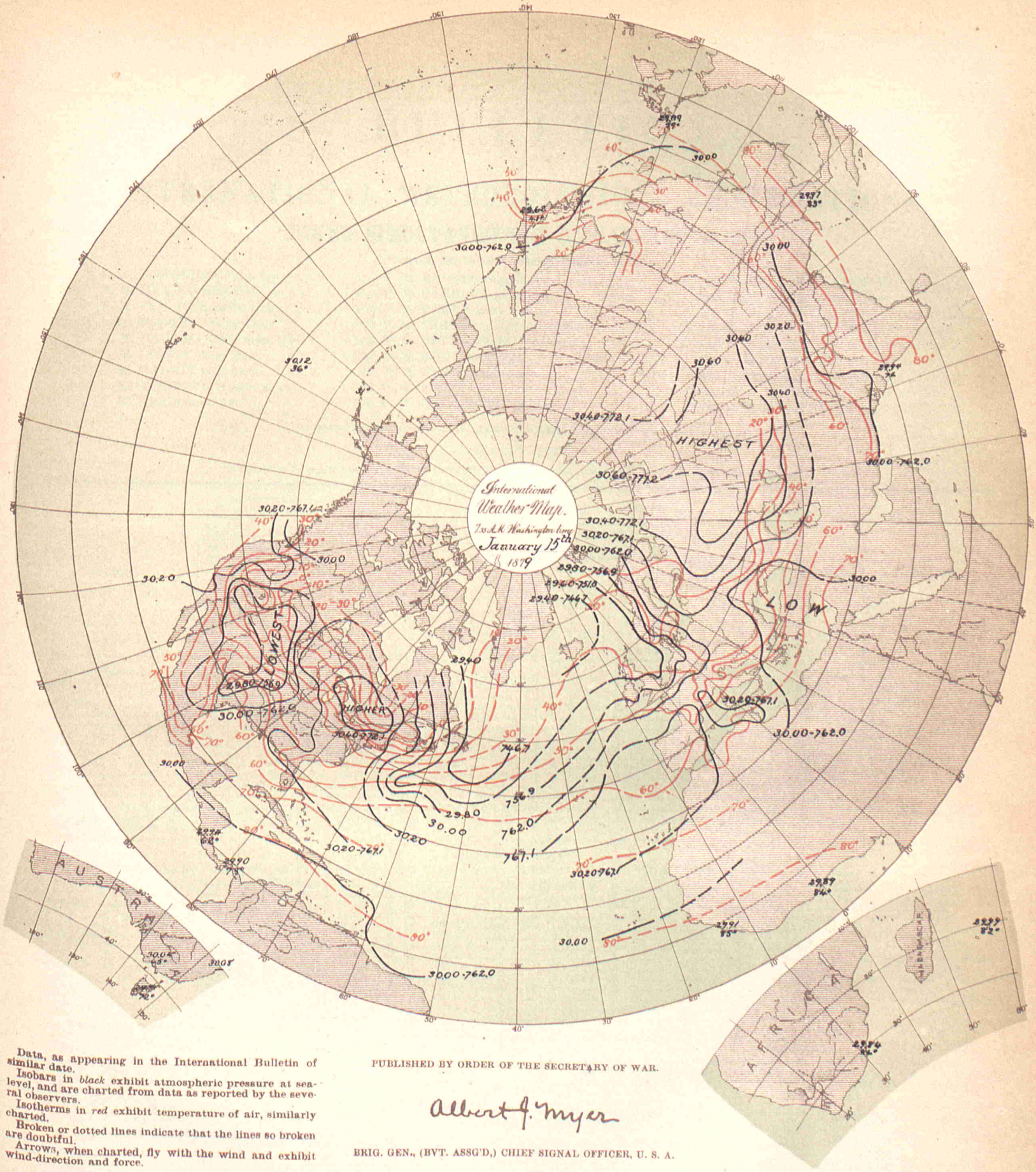
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 16, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.32	770.0	61.5	16.4	83	NE	.....	.....	3	.....	1	.....	.....	0	0	Very fair	
Nemours	.....	.....	30.26	768.7	64.6	18.1	83	WSW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.10	764.6	58.6	14.8	76	WSW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Tourillere.
La Calle	.....	.....	30.13	765.2	59.7	15.4	73	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.16	766.1	60.3	15.7	71	NW	.....	.....	7	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.18	766.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.15	765.7	58.6	14.8	34	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.10	764.6	61.2	16.2	33	W	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.15	765.8	55.4	13.0	93	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.12	765.0	64.0	17.8	19	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.12	765.0	62.6	17.0	39	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.62	740.7	30.09	764.3	34.3	1.3	73	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.22	742.2	30.04	763.0	21.2	— 6.0	100	ESE	.....	.....	1	10	.....	.....	0.016	0.4	.....	Dr. Wierzbiski
Eperies	29.10	739.2	30.04	763.1	23.0	— 5.0	86	Calm	.....	.....	0	10	.....	.....	Inap.	Inap.	.....	Julius Mikolik.
Gratz	28.77	730.8	30.08	763.9	33.4	0.8	75	S	.....	.....	2	2	.....	.....	0.004	0.1	.....	Andreas Rospini
Hermannstadt	28.54	725.0	30.07	763 8	24.6	— 4.1	84	NNW	.....	.....	1	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.64	727.4	30.03	762.7	36.1	2.3	89	WNW	.....	.....	2	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.98	736.0	30.02	762.6	26.8	— 2.9	99	NW	.....	.....	1	10	.....	.....	0.004	0.1	.....	Dr. T. Stanecki.
Pola	29.97	761.1	30.08	764.1	47.3	8.5	64	WNW	.....	.....	1	1	.....	.....	0.012	0.3	.....	I.R.Hydrographic Office.
Szathmar	29.02	752.4	30.12	765.1	24.1	— 4.4	95	NW	.....	.....	2	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.79	756.7	30.05	763.3	27.0	— 2.8	92	SE	.....	.....	2	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.00	762.0	30.10	764.6	44.6	7.0	79	Calm	.....	.....	0	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.30	744.1	30.06	763.4	28.0	— 2.2	89	Calm	.....	.....	0	9	.....	.....	0.079	2.0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:5 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount, 1st per 0—10.	Clouds. Amount, Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.86	758.4	29.96	761.0	38.4	3.6	.....	WNW	6	2.7	.....	.....	1	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.96	761 0	29.97	761.2	40	4.4	.....	ESE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	30.00	762.0	34.3	1.3	.....	SSW	1	0.4	.....	.....	0	.....	.....	.....	.....	Foggy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.99	761.7	39.0	3.9	.....	ESE	3	1.3	.....	.....	10	.....	.....	.....	.....	Misty.....	John Harinup.
Bolton	.....	.....	29.97	761.2	40 0	4.4	.....	NNW	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.59	751.6	29.98	761.5	35.2	1.8	.....	N?	.....	.....	02	.....	7	.....	.....	0	0	Blue sky.....	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	30.03	762.8	38.0	3.3	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds.....	H. Todd, [C.
Cardington	.....	.....	30.04	763.0	35.6	2.0	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	38.2	3.4	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy.....	Corpl. Davis.
Dartmoor	28.19	716.0	29.69	754.1	37.0	2.8	.....	NE	.....	.....	8	.....	8	.....	.....	.....	.....	Squally.....	Alexander Watt.
Donaghadee	29.96	761.0	30.00	762.0	39	3.9	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.89	759.2	29.91	759.7	38	3 3	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.45	748.0	29.68	753.9	45.0	7.2	.....	ENE	.....	.....	6	.....	9	.....	.....	0.9	23.	.....	The Staff.
Fort Napier, (Natal)	27.39	695.7	29.72	754 9	90.0	32.3	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.65	753 1	29.88	758.9	87	30.6	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.93	760.2	38	3.3	.....	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.19	766.8	30.25	768.3	61.9	16.6	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.78	756.4	29.98	761.5	34.2	1.2	.....	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.97	761.2	29.98	761.5	36	2.2	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.75	755.6	29.93	760.2	37.2	2.7	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy
Guernsey	29.37	746.0	29.59	751.6	44.5	6.9	.....	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Squally.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.61	752.1	29.72	754.9	45	7.2	.....	E	.....	.....	7	.....	10n	.....	.....	1.00	25.4	Raining	M. P. Meyle.
Holyhead	29.91	759.7	29.97	761.2	39	3.9	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.29	744.0	29.58	751.3	44.2	6.8	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	29.85	759.2	29.93	760.2	37.6	3.1	.....	E	13	5.8	.....	.....	9	.....	.....	.....	.....	Foggy	The Staff.
Kingstown	29.94	760.5	29.97	761.2	42	5.6	.....	ESE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	29.71	754.6	29.98	761.5	35.0	1.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.01	762.0	30.07	763.8	61	16.1	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Natra	29.85	758.2	29.94	760.5	35	1.7	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear.....	W. L. Penny.
Nassau, (Bahamas)	.....	.....	30.18	766.6	71.2	21.8	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.80	756.9	29.98	761.5	37.4	3.0	.....	NNE	.....	.....	1	.....	5	.....	WSW	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.42	747.2	29.97	761.2	34.5	1.4	.....	NNE	.....	.....	2	.....	10	.....	.....	Blank	Blank	Misty.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.93	760.0	37	2.8	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	H. E. Bellamy.
Plymouth	29.61	752.1	29.98	753.9	42.1	5.6	.....	ENE	.....	.....	6	.....	10	.....	.....	.....	.....	Squally.....	John Merrifield.
Roche's Point	29.86	758.4	29.89	759.2	42	5.6	.....	ENE	.....	.....	4	.....	6	.....	.....	.....	.....	Blue sky.....	W. Kennedy.
Saint Ann's Head	29.69	754.1	29.85	758.2	41	5.6	.....	ENE	.....	.....	4	.....	7	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.94	760.5	38.6	3.7	.....	SSW	8	3.6	.....	.....	0	.....	.....	.....	.....	Blue sky....	Rev. C. Clouston, LL. D.
Scutari, (Asiatic) Turkey	.....	.....	29.97	761.2	39.0	3.9	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.72	754.9	30.01	762.2	34.6	1.4	.....	Calm	.....	.....	0	.....	8	.....	.....	0	0	Misty.....	W. F. Cooper.
Silloth	29.98	761.5	30.01	762.2	32.3	0.2	82	Calm	.....	.....	0	.....	5	.....	.....	0	0	D. clouds....	F. H. Redford.
Stonyhurst Observatory	29.59	751.6	29.98	761.5	35.1	1.7	.....	NNE	.....	.....	07	.....	8	.....	.....	.....	.....	.....	Rev. S. J. Perry.
Strathfield Turgiss	29.69	754.1	29.92	760.0	39.3	4.1	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	Foggy	Rev. C. B. Grigg, F.M.S
Thurso	29.86	758.4	29.92	760.0	36	2.2	.....	SSE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	John Trotter.
Truro, Royal Institution	.....	.....	29.71	754.8	46	7.8	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.91	759.7	29.94	760.5	44.1	6.7	.....	ENE	6	2.7	.....	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.95	760.7	59	15.0	88	S	.....	.....	3	.....	10n	.....	.....	0	0	Covered....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.00	762.0	35.1	1.7	.....	W	.....	.....	1	2ck	.....	.....	.....	0	0	Fine.....	Andrew Gibb.
Mauritius, Observatory	29.80	756.9	29.99	761.6	81.6	27.6	68	ESE	18.0	8.0	.....	1	6	.....	E	0.09	2.3	Squally.....	C. Meldrum.
Melbourne, Observatory	29 98	761.5	30.07	763.8	59.2	15.1	75	SE	2	0.9	.....	.....	1	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L'ts-house, (Hebrides)	.....	.....	29.52	760.0	42	5.6	.....	SW	.....	.....	4	5	5	SW	.....	0.1	3.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.90	759.4	42	5.6	.....	W	.....	.....	4	0	0	.....	.....	0	0	.....	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level; amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series: 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	OBSERVER.
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Notes.	Observer
Punta Arenas																			
San José	26.24	666.5	29.96	761.0	60.8	16.0	84	NE			3					0	0		Mr. Ansart, Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-all is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	29.98	761.4	30.03	762.8	30.9	— 0.6	83	E			4		10						
Faröe	29.92	760.0	29.94	760.5	29.3	— 1.5	96	ESE			4		10					Snowing	
Godthaab, (Greenland)																			
Styk[illegible]m, (Iceland)																			
Thorshavn, (Faröe)																			
Vestervig	29.88	758.9	30.05	763.2	30.6	— 0.8	96	SE			4		8						

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

FRENCH SERIES.

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

Alençon, Normal School	29.24	742.6	29.79	756.6	40.3	4.6	97	S			1		10			0.012	0.3	Raining	Collignon, Director.
Amiens, Normal School	29.81	757.2	29.93	760.2	36.7	2.6	89	ESE			1		10			0	0	Covered	Bouvallet, Director.
Avignon, Normal School	29.98	761.6	30.05	763.5	41.7	5.4	73	NW			1		10		W	0	0	Covered	M. Girard, Director.
Bar-sur-Seine	29.38	746.3	29.96	761.0	41.2	5.1	84	S			1		10			0	0	Covered	C. Sandard, Director.
Beauvais, Normal School	29.62	752.4	29.92	759.9	37.8	3.2	79	ENE			1		10			0	0	Covered	Frère Eugène Marie, Dir.
Besançon, Normal School	29.13	740.0	30.06	763.5	40.1	4.5	97	E			2		9		SW	0	0	Slightly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	29.14	740.1	30.04	762.9	39.2	4	83	S			1		10cn	SW	SW	0	0	Covered	M. Mariot, Director.
Bourges, Normal School																			A. Waquet, Director.
Brest, Naval Observatory	29.11	739.5	29.36	746.7	51.8	11.0	99	NE			2		9		NE	0.354	9.00	Misty	M. de Bermaur, Director.
Carcassonne Normal School	29.57	751.1	30.00	761.9	47.8	8.8	93	NE			1		2	NE	NE	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	29.61	752.0	29.68	753.9	44.2	6.8	76	SE			3		10		W	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.23	742.4	29.82	757.3	35.6	2	79	E			1		5			0	0	Cloudy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.68	753.9	30.01	762.3	30.9	4.4	93	S			1		8	SSW	SSW	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D.Ob	28.52	724.3	29.89	759.2	48.6	8.1	55	S			1		10			0.043	1.1	Covered	Allnard, Director.
Commercy, Normal School	29.19	741.4	30.00	762.8	37.2	2.9	97	N			1		10n		SE	0.047	1.2	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.93	734.7	30.07	763.7	47.5	8.6	52	SE			1		8		SW	0	0	¾ cov'ed	M. Kuss, Director.
Grenoble, Normal School	29.29	744.0	30.10	764.6	32.4	0.2		FNE			1		10n			0	0	Covered	M. Ahlard, Director.
La Roche-sur-Yon, N. School	29.46	748.2	29.68	753.8	48.0	9.2	95	SSW			4		10			0	0	Covered	Monillet, Director.
Le Mans, Normal School	29.43	747.4	29.74	755.5	43.3	6.3	79	SSE			3		8		SSE	0	0	Very cloudy	Perrier, Director.
Lons-Le-Saulnier, N.School	29.04	737.7	29.98	761.6	41.9	5.5	81	S			1		5		W	0.803	20.40	Cloudy	Bandry, Director.
Lorient, Naval Observatory	29.30	744.3	29.41	746.9	51.1	10.6	97	SSW			4				S	0.417	10.6		L. T. Caré, Director.
Mâcon, Normal School																			G. Galzin, Director.
Mirecourt, Normal School	28.93	734.7	30.00	762.0	38.8	3.8	93	NE			3		n		SW	0	0		M. Barbier, Director.
Nistnes, Normal School	29.88	758.9	30.09	764.2	45.7	7.6	77	NE			2		0			0	0	Clear	Boyer, Director.
Privas, Normal School																			M. Cautier, Director.
Puy de Dome (Summit) Obs.	25.01	635.3			28.8	— 1.8	100	S			4		10			0.157	5.0	Covered	Allnard, Director.
Rochefort, Naval Obs'y	29.72	754.9	29.76	755.7	52.5	11.4	83	S			2		10	W	W	0.31	8.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.74	755.5	29.83	757.7	38.1	3.4	93	ESE			2		10			0.110	2.8	Covered	Frère Eucard, Director.
Saint Malo (Port) Obs'y	29.48	748.8	29.90	759.4	45.9	7.7	89	SE			3		10	SE	SE	0.068	1.72	Covered	Lt. Bercouet, Director.
Saint Maur, (near Paris)	29.72	755.0	29.89	759.2	39.6	4.2	92	ESE			1		8		SSW	0	0	Almost cov'd	E. Renou, Director.
Tarbes, Normal School	28.72	729.5	29.81	757.1	55.4	13	56	W			2		0			0	0	Clear	T. Hegbet, Director.
Villefranche-sur-Saone, N.S.	29.30	744.3	30.08	764.0	38.3	3.5	97	SSW			1		5		W	0.165	4.2	Cloudy	M. Gausserand, Director
Sub-Series.																			
Fort de France, Martinique	29.98	761.4	30.00	762.1	77.7	25.4										0.47	12.		L'Abbé Marches.
Lyons, Observatory			30.01	762.3	35.1	1.7	98	E			1		9			0.024	0.6	Misty	Mr. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis	24.87	631.6	30.18	766.6	41.4	5.2	52	SW	18.0	8.3		0				0	0		M. Cave.
Nice			30.07	763.7	54.7	12.6	65	W			1	2				0	0		Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.61	752.1			38.3	3.5	100	SE			2	10				0.004	0.1	Sprinkling	Marie Davy, Director
Perpignan	29.90	759.5	30.01	762.2	48.6	9.2	82	NE	5.6	2.5		10			NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Peylne.
Pic du Midi, (Plantade,) H. P.	22.44	580.9			34.2	1.2					6	1				0	0	Clear	Gen'l de Nansouty.
Toulouse, Observatory	29.20	743.1	29.98	761.4	49.3	9.6	79	SSE			4	6				0.193	4.9		M. Mercadier Juller.
Tours	29.60	750.9	29.76	756.9	46.4	8.0	81	SSW			2	10			W	0	0		Cousin Darquet.
Versailles Observatory			29.87	758.6	39.9	4.4		S			1	10				0.004	0.10	Light fog	Dr. A. [illegible]ny, Director
Zi-Ka-Wei, (near Shanghai)	30.13	765.3	30.16	766.0	40.8	4.9	94	NNE	5.1	2.3		9				0	0	Clear	Marc Drelevreus, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.6 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,556.60 m., or 5,204.8 ft.; Pic du Midi (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.6	30.00	762.0	36.8	2.7	91	SW			3		3	W		0.315	8.0		Prof. Dr. Hoh.
Berlin	29.67	753.7	29.85	758.2	36.7	2.6	98	SW			1		10			0.110	2.8		Prof. Arndt.
Breslau	29.44	747.8	29.97	761.3	36.8	2.4	82	WSW			1		10			0.096	2.46		Royal University Obs'y
Carlsruhe	29.58	751.2	30.01	762.3	41.5	5.3	82	SW			1		9	SW		0	0		Albert Senz.
Cassel	29.39	746.6	30.00	762.0	38.3	3.5	83	NW			3		8	W		0	0		Dr. H. Möhl.
Crefeld	29.82	757.5	29.98	761.6	37.4	3.0	85	SW			2		10			0.08	2.		Director Lose.
Emden					35.8	2.1	98	SW			0		10			0	0		Prof. Prestel.
Frankfort on the Main	29.66	753.3	30.04	762.9	39.2	4.0		SSW			2		3			0.110	2.8		Physical Society.
Friedrichshafen	28.56	725.5	30.04	762.9	40.3	4.6	66	N			2		1	NW		0.004	0.1	Snowing	M. Wilhelm.
Hamburg	29.87	758.8	29.95	760.7	34.0	1.1	98	W			3		10			0.110	2.8	Foggy	Captain F. Hegemann
Kiel	29.94	760.5	29.96	760.9	30.9	— 0.6	84	ENE			2		10			0.206	5.22	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.99	761.8	30.08	764.0	23.7	— 4.6	89	E			2		6			0	0		Prof. E. Luther.
Köslin			29.98	761.4	25.2	— 3.8		E			2		4			0	0		H. Müller.
Leipsic, Observatory	29.56	750.9	30.00	762.0	36.3	2.4	89	SW			2		10	W		0.106	2.7	Sprinkling	Prof. Brahms, Privy Councellor
Memel, Naval School	30.07	763.6	30.11	764.8	25.6	— 3.9	89	ENE			1		10n					Snowing	Skalweit.
Neufahrwasser	30.05	763.3	30.07	763.7	27.9	— 2.3	81	NE			2		10			0	0	Misty	A. Lothes.
Posen	29.69	754.2	30.00	762.0	26.6	— 3.0	92	S			4		10			0.071	1.8	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.47	748.5	30.04	762.9	43.3	6.3	79	S			1		7	W		0.030	0.76		Imp. University Observatory.
Stuttgart	29.05	737.9	30.02	762.5	41.0	5.0	72	N			1		5	W		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.50	724.0	30.07	763.8	36.5	2.5	85	Calm	0	0		7	9k		W	0.028	0.7		Dr. Yaa Bebber.
Wustrow, Naval School	29.96	760.9	29.98	761.5	26.2	— 3.2	94	ENE			1		10s			0.008	0.2		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.6 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.58	751.2	29.97	761.2	68.2	11.8		NE			0.5							½ clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.0	30.01	762.3	73.1	22.8	53	WNW					0			0	0	Blue sky	
Dessa	29.57	751.1	30.06	763.6	71.7	22.1	16	N					0			0	0	Blue sky	
Bombay	29.89	759.2	29.93	760.2	76.5	24.7	60	NNW	28.0	12.5			0			0	0	Blue sky	
Poonah	27.92	709.1	29.92	760.0	78.7	25.9		E					0			0	0	Blue sky	
Lahore	29.26	743.3	30.04	763.1	59.6	15.3	39	W	2.3	1.0			0			0	0	Blue sky	
Belgaum	27.37	695.1	29.91	759.6	76.8	24.9	45	Calm	0	0			2			0	0	D. clouds	
Roorkee	29.03	737.4	29.96	761.1	63.8	17.7	63	SW	2.4	1.1			1			0.19	4.8	D. clouds	
Agra	29.41	747.0	30.00	761.9	65.5	18.8	64	NW					0			0	0		
Nagpur	28.86	733.1	29.91	759.6	80.1	26.7	82	Calm	1.6	0.7			4	E		0	0	D. clouds	
Lucknow	29.55	750.6	29.94	760.4	68.4	20.2	60	N	1.1	0.5			0			0	0	Blue sky	
Allahabad	29.58	751.4	29.90	759.4	72.1	22.3	62	Calm	0.6	0.3			4		W	0	0	D. clouds	
Patna	29.74	755.3	29.92	760.1	71.3	21.8	57	W	1.2	0.5			6	W	W	0	0	D. clouds	
Hazaribagh	27.86	707.7	29.91	759.6	70.5	21.6	37	NNW	5.3	2.4			3			0	0		
Cuttack	29.87	758.8	29.96	760.9	75.4	24.1	60	NNW	1.0	0.4			2			0	0	D. clouds	
Calcutta (Alipore)	29.88	758.9	29.90	759.5	69.3	20.7	66	Calm	0	0			0			0	0	D. clouds	
Goalpara					71.7	22.1	56	Calm	2.4	1.1			0			0	0	Blue sky	
Chittagong	29.81	757.2	29.91	759.6	69.8	21.0	89	NNW	5.7	2.6			0			0	0		
Sibsagar	29.58	751.2	29.92	760.0	64.1	17.8	82	ENE	0.5	0.2			8	SSW	SSW	0	0	D. clouds	
Jubbulpore	28.55	725.2	29.93	760.2	75.8	24.3	53	NW	3.9	1.7			4			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,932.4 feet, or 666.3 meters; Nagpur, 1,028 ft., or 312.4 m.; Hazaribagh, 2,016 ft., or 612.6 m.; Jubbulpore, 1,362 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer, corrected for instrum'tal error and temperature.		Barometer, reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Udine	29.63	753.0	30.10	764.5	44.2	6.8	73	Calm	0	0			0			0	0		Prof. Giovanni Clodig.
Padua	29.99	761.7	30.10	764.6	38.2	3.7	78	SSE	3.8	1.7			5			0	0		Prof. Dott. Lorenzoni
Milan	29.55	750.6	30.10	764.5	35.1	1.7	72	E			2		6			0	0		Prof. Schiaparelli.
Moncalieri	29.15	740 3	30.10	764.6	37.6	3.1	69	N	4.3	1.9			4			0	0		Prof. P. F. Denza.
Mondovi	28.10	713.7	30.07	763.7	41.7	5.3	43	NNW			2		3	NW		0	0		Prof. D. C. Bruno.
Genoa	29.87	758.8	30.07	763.8	50.9	10.5	65	SE	3.8	1.7			4	W		0	0		Prof. G. M. Garibaldi.
Florence	29.82	757.5	30.09	764.3	48.7	9.3	48	ENE			2		10			0	0		Cav. F. Meucci.
Leghorn	29.90	761.0	30.05	763.2	50.5	10.3	50	NE	4.9	2.2			10			0	0		Prof. P. Monte.
Pesaro	30.06	763.6	30.13	764.9	42.1	5.6	72	N	8.7	3.9			0			0	0		Prof. Luigi Guidi.
Rome	29.86	758.4	30.04	763.0	53.4	11.9	47	N	4.9	2.2			1			0	0		Prof. P. S. Ferrari.
Lecce	29.75	755.7	30.01	762.3	49.5	9.7	78	NW	17.4	7.8			6	NW		0	0		Prof. C. De Giorgi.
Cagliari	29.90	759.4	30.10	764.4	56.8	13.8	54	N			4		5	N		0	0		Prof. A. Pacinotti.
Cosenza	29.09	738.9	30.00	761.9	56.8	13.8	75	SE	1.3	0.6			9			0.039	1.0		Prof. D. Conti.
Palermo	29.80	757.0	30.06	763.6	57.4	14.1	71	WNW	8.1	3.6			3	NW		0	0		Prof. G. Cacciatore.
Syracuse	29.98	761.4	30.05	763.3	54.1	12.3	59	SE	3.8	1.7			9	NW		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.47	748.6	30.03	762.7	53.6	12.0	71	N	2.5	1.1			1			0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.09	762.7	30.05	763.3	42.8	6.0	66	SW	6.5	2.9			78			0	0	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.98	761.2	30.14	765.5	40.2	4.6	87	NNW	1.0	0.5			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo, Observatory	29.65	753.1	25.72	754.9	40.7	4.8	84	WSW	11.2	5.0		0	0			0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 6:40 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	25.08	637.0	30.27	768.8	42.8	6.0	54	SW			1	0cs	0	SW		0	0	½ clouded	P. Ceballos.
Guadalajara	24.45	621.1	30.11	764.9	53.1	11.7	76	SW			1	0	0			0	0	Foggy	Prof. L. Perez.
Leon	23.08	586.1	30.24	768.0	45.0	7.2	66	Calm	0	0		0	0			0	0	Fine	Prof. M. Leal.
Mexico, Central Obs'y					47.3	8.5	60	W			1	1cs	0			0	0	Clear	The Staff.
Pabellon, (Aguascalientes	29.88	758.9	29.89	759.2	69.4	20.8	93	N			1	0	0			0	0	Hazy	M. V. de Leon, M. E
Tlacotalpam	24.21	614.9	30.19	766.7	49.0	9.4	14	SW			1	0	0			0	0		M. M. Cházaro.
San Luis Potosi	29.94	760 6	29.97	761.3	69.8	21.0	95	Calm			0	0	0			0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	22.56	572.9			51.8	11	69	SW			1	3	0	E		0	0	⅓ clouded	Prof. J. Rossell.
Zacatecas	23.35	593.0	30.10	764.5	40.1	4.5	74	N	0	0						0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute																			Prof. P. Spina.
Durango	28.40	721.4	30.07	763.7	72.7	22.6	64	ENE			1	0	0		SW	0	0	⅛ clouded	M. V. de Leon, C. E.
Colima	29.85	758 9	30.01	762.2	63	17 2		E			1	0	0			0	0	Hazy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,105.5 ft.; Guadalajara, 1,562.3 m., or 5,118.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,263.8 m., or 7,433.6 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1890 m., or 6200.4 ft.; Zacatecas, 2,193 m., or 8,188.9 ft.; Puebla, Catholic Institute, 2200.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 382 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.85 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	30.00	762.0	30.00	762.0	33.1	0.6		SSE								0.051	1.3		
Groningen	29.90	759.4	29.95	760.8	37.4	3 0		SW			2					0.193	0.3		
Helder	29.95	760.6	29.95	760.8	38.7	3.7		SW			2					0	0		
Hellevoetsluis	29.98	761.4	29.98	761.4	33.4	0 5	96	S			1								
Utrecht	29.86	760.9	29.96	762.1	32.5	0.3	98	SW			2		10					Misty	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.99	761.8	30.05	763.2	33.8	1.0	92	Calm	0	0	.....	.....	10	.....	.....	0.008	0.2	Rain & snow	
Hröne	29.97	761.2	30.01	762.2	29.8	— 1.2	69	SE	9	4	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.03	762.7	30.18	766.6	29.7	— 1.3	98	NNE	2	1	.....	.....	10	.....	.....	.....	.....	Snowing..	
Tromsö	29.95	760.6	29.99	761.7	27.1	— 2.7	77	SW	7	3	.....	.....	2	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.74	755.4	29.93	760.3	62.2	16.8	86	WSW	18.1	8.1	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.28	743.6	30.32	770.2	60.6	15.0	97	S	1.8	0.8	.....	.....	10	.....	.....	0.067	1.7	Misty	Dr. A. M. R. dos Santos
Funchal, (Madeira)	30.25	768.4	30.34	770.6	64.2	17.9	63	SE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.95	760.7	30.31	769.8	57.6	14.2	88	SW	9.8	4.4	.....	.....	10	.....	.....	0.252	6.4	.....	The Staff.
Ponta Delgada, (Azores)	30.01	762.2	30.08	764.0	63.3	17.4	76	SW	31.1	13.9	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers per hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

PORTUGUESE NAVAL SERIES. VESSELS.																Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, N. 6° 16', E 2° 08'	.....	.....	29.92	760.0	84.2	29.0	.....	W	.....	.....	2	.....	4	.....	W	1	W	D. clouds	J. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Porto Freya, Cape Verd Ids.	.....	.....	30.07	763.6	77.4	25.2	.....	ENE	.....	.....	2	.....	3	.....	.....	2	NE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, Saint Paul de Loando	.....	.....	29.76	756.0	83.5	28.6	.....	W	.....	.....	2	.....	7	.....	W	2	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.01	762.2	66.2	19.0	.....	SE	.....	.....	4	.....	5	.....	SE	3	SE	D. clouds	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.60	751.8	30.05	763.2	21.2	— 6.0	96	SSE	5	2	.....	.....	10	.....	.....	.....	.....	Foggy	Astronomical Obs
Wilna	29.63	752.6	30.08	763.9	23.9	— 4.5	94	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Astronomical Obs.
Dorpat	29.99	761.8	30.25	768.4	20.8	— 6.2	93	ENE	7	3	.....	.....	9n;k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.28	769.1	30.30	769.5	20.7	— 6.3	95	SE	5	2	.....	.....	10n	.....	.....	.....	.....	Light snow.	Central Physical Obs.
Kieff	29.28	743.6	29.96	761.0	18.3	— 7.6	100	NE	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Nikolaiev	29.68	753.9	29.75	755.7	32.4	0.2	96	NE	13	6	.....	.....	10n	.....	.....	.....	.....	Raining	Kurdakof.
Kertch	29.77	756.1	29.79	756.6	44.2	6.8	93	S	5	2	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Moscow	29.87	758.8	30.50	774.6	7.7	—13.5	84	W	11	5	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.84	757.8	30.06	763.4	19.0	— 7.2	81	ENE	31	14	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.33	770.4	30.35	770.9	12.9	—10.6	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.47	723.1	29.91	759.7	46.4	8.0	73	Calm	0	0	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.28	769.2	30.26	767.1	21.6	— 5.8	90	ENE	20	9	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.11	764.8	30.64	778.3	7.9	—13.4	85	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kazan	30.35	771.0	30.68	778.7	4.6	—15.2	86	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.45	747.9	30.52	775.1	4.5	—15.3	82	W	13	6	.....	.....	2c;cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.97	761.2	30.23	767.7	19.0	— 7.2	67	ENE	16	7	.....	.....	9k	.....	.....	.....	.....	.....	
Tashkend	28.59	726.2	30.39	771.8	34.5	1.4	93	Calm	0	0	.....	.....	6	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.84	757.8	30.42	772.7	2.3	—16.5	86	SW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Yeniseisk	29.58	751.4	29.90	759.4	8.4	—13.1	86	WSW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Marks.
Peking, (China)	30.33	770.4	30.47	774.0	24.8	— 4.3	27	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.06	763.4	30.14	765.5	— 5.4	—20.8	86	Calm	0	0	.....	.....	10s	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455.7 m., or 1,492.77 ft., Irkutsk 461.5 m., or 1,514.1 ft.; Nertchinsk, 660.7 m., or 2,165.27 ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.95	760.7	30.06	763.4	52.7	11.5	55	WNW	2.6	1.17	.....	.....	4	.....	.....	0	0	¼ covered	Antonio Rave, Directo
Bilbao, Met. Obs'y	29.90	759.5	29.96	760.9	62.6	17.0	54	W	3.3	1.49	2	.....	W	.....	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.6	.....	.....	44.1	6.7	95	SW	10.6	4.86	.....	.....	10	.....	.....	0	0	Covered	Domingo Martin y Perez.
Madrid, Royal Observatory	27.99	711.0	.....	.....	43.5	6.2	97	SW	4.5	2.00	.....	.....	10	.....	.....	0.016	0.4	Covered	The Staff.
Murcia, Met. Obs'y	30.08	764.0	30.23	767.8	66.7	19.3	55	NW	1.3	0.58	.....	2	2	SW	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.23	742.4	30.13	765.3	55.8	13.2	78	SW	7.4	3.3	.....	.....	8	.....	.....	0.165	4.2	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.10	764.5	30.17	766.2	84.9	13.3	99	Calm	0	0	.....	0	0	.....	.....	0	0	Foggy	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.9	29.86	758.2	79.0	26.0	70	E	3.4	1.5	.....	0	0	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.25	768.3	30.35	770.9	56.8	13.8	81	NNW	3.7	1.7	.....	3	5	WNW	N	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.03	762.8	30.12	765.1	77.0	25.0	83	E	6.2	2.77	.....	2c	2k	E	E	0	0	Clear	Leonardo de Tejada, Ch't Eng'e

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 859 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrad.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per Hour.	Wind. Velocity. Meters per Second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain fall or melted snow in the past 24 hours. Inches.	Rain fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.23	767.9	30.27	768.9	20.8	— 6.2	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.21	767.2	30.26	768.5	22.3	— 5.4	96	.....	.....	.....	.....	.....	10	.....	.....	0	0	.....	
Hernosand	30.19	766.7	30.24	768.0	24.8	— 4.0	95	SSW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Stockholm	30.02	762.6	30.20	767.1	28.8	— 1.8	92	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.02	762.5	30.08	764.0	30.2	— 1.0	88	E	.....	.....	4	.....	10	.....	.....	0.020	0.5	.....	
Sub-Series.																			
Upsala	30.14	765.6	30.22	767.5	23.2	— 4.9	100	N	1.6	0.7	.....	.....	10	.....	.....	0	0	.....	Nils Elcholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.66	726.4	30.09	764.3	32.5	0.3	86	S	.....	.....	3	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.39	721.0	30.05	764.1	37.0	2.8	70	SE	.....	.....	1	.....	4	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.2 mm.; Thermometer, —1.1 cent., Relative Humidity, +7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 405 meters, or 1,333 feet; and that of Zurich 470 m. or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Comanduros, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.01	762.3	38.5	3.6	66	WNW	6	3.0	.....	.....	4	.....	NW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.98	761.4	49.6	9.8	.....	W	.....	.....	1	.....	5	.....	.....	0.04	1.	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.91	759.7	30.02	762.6	64.9	18.3	51	WSW	.....	.....	2	.....	7ks	.....	SW	0.42	10.7	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	30.15	765.8	30.22	767.6	— 8.6	—22.5	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.64	752.5	29.69	754.7	— 1	—18.3	.....	NE	8	3.6	.....	.....	10n	.....	NE	0.30	7.6	Light snow	W. R. Bigg.
*Chatham, N. B	30.15	765.8	30.23	767.8	—22	—30.0	92	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.11	764.8	30.15	765.8	— 8	—22.2	96	W	8	3.6	.....	2c	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.80	756.9	30.02	762.5	— 2.0	—18.8	100	NE	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Father Point, Quebec	30.19	766.8	30.21	767.3	— 6	—29.6	53	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	W. H. Bevis.
Fredericton, N. B	30.24	768.1	30.31	769.9	—10.9	—23.8	100	W	5	2.2	.....	10cs	0	.....	.....	0	0	Overcast	J. McWilliams.
*Fort Garry Manitoba	28.88	733.5	29.82	757.4	—11	—23.9	96	S	4	1.8	.....	2ck	2ks	W	W	0	0	Fair	Prof. Harrison.
Granton, Ontario	28.50	723.9	29.08	738.9	15	— 9.4	.....	NE	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Light snow	James Stewart.
*Halifax, N. S	30.04	763.0	30.19	766.8	— 3	—19.4	91	W	3	1.3	.....	8cs	2ks	.....	W	0	0	Cloudy	James Grant.
Hamilton, Ontario	29.33	745.0	29.73	755.1	14.7	— 9.6	98	N	.....	.....	2	10cs	0	N	.....	0.20	5.1	Snowing	F. Allison, M. A.
Heart's Content, N. F	29.31	744.5	29.34	745.2	10	—12.2	100	N	.....	.....	2	0	2ks	.....	W	0	0	Fine	Geo. Dickson, M. A.
*Kingston, Ontario	29.59	751.6	29.97	761.2	1	—17.2	61	NE	19	8.5	.....	.....	10n	.....	NE	0.13	3.3	Light snow	E. Weedon.
Little Glace Bay, N. S	29.57	758.7	29.91	759.7	8.6	—13.1	98	N	12	5.4	.....	5k	0	N	.....	0.10	2.5	.....	S. Woods, M. A.
Moose Factory, Ontario	29.03	760 2	29.97	761.2	— 7.0	—21.7	92	S	.....	.....	1	5cs	0	.....	.....	Inap.	Inap.	Fair	C. H. Rigby.
*Montreal, Quebec	29.84	757.9	30.07	763.8	— 5	—20.6	92	E	16	7.2	.....	.....	10n	.....	.....	0.01	0.3	Light snow	J. R. Nason.
*Parry Sound, Ontario	29.14	740.1	29.90	759.4	6	—14.4	84	NE	10	4.5	.....	.....	10n	.....	NE	0.03	0.8	Light snow	C. H. McLeod, C. E.
Peterboro, Ontario	29.05	737.9	29.88	758.9	2.6	—16.3	67	NE	.....	.....	.....	.....	10n	.....	.....	.....	.....	Overcast	Rev. R. Mosley.
Port Dover, Ontario	28.93	734.8	29.67	753 6	16	— 8.8	100	NE	12	5.4	.....	.....	10n	.....	.....	0.48	12.2	Light snow	J. F. Jeffers, B. A.
Port Hastings, N. S	29.94	760.5	29.99	761.7	3.6	—15.7	.....	NW	25	11.2	.....	.....	.....	.....	.....	0	0	Fine	H. Morgan.
Port Stanley, Ontario	28.96	736.1	29.66	753 4	20	— 6.7	85	NE	.....	.....	.....	.....	10n	.....	N	0.40	10.2	Cloudy	Peter Grant.
*Quebec, Quebec	29.86	758.4	30.24	768.1	—12	—24.4	75	W	.....	.....	1	.....	10n	.....	W	0	0	Cloudy	M. Payne.
*Rockliffe, Ontario	29.54	750.3	30.00	762.5	— 3	—19.4	83	E	6	2.7	.....	.....	10n	.....	.....	0	0	Threatening	Capt. Ashe, R. N.
St. Andrews, N. B	30.25	768.1	30.30	769.6	6	—21.1	92	N	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	30.09	764.3	30.28	769.1	— 6	—21.1	100	W	9	4.0	.....	.....	10n	.....	.....	0	0	Overcast	Dr. Gove.
*Saugeen, Ontario	29.04	737 6	29.81	757.2	10	—12.2	95	NE	4	1.8	.....	.....	10s	.....	.....	0	0	Overcast	G. Murdock, C. E.
Stayner, Ontario	28.99	736 3	29.84	757.9	8	—13.3	82	E	1	0.4	.....	.....	10n	.....	E	0.03	0.8	Clearing	K. Stewart.
Stratford, Ontario	28.82	719.3	29.69	754 1	12.4	—10.9	92	E	10	4.5	.....	.....	10s	.....	.....	0.19	4.8	Light snow	R. J. Cole.
*Sydney, C. B	29.90	759.4	29.94	760.5	8	—13.3	76	W	15	6.7	.....	0	2ks	.....	NW	0.02	0.5	Snowing	C. J. MacGregor, M.A.
*Toronto, Ontario	29.34	745.2	29.76	755.9	10	—12.2	96	NE	22	9.8	.....	.....	10n	.....	Calm	0.52	13.2	Clear	T. C. Hill.
*Windsor, N. S	30.11	764.8	30.22	767.6	— 1.5	—18.6	100	NW	7	3.1	.....	.....	10ks	.....	.....	0	0	Light snow	Magnetic Observatory.
Sub-Series.																		Cloudy	Prof. John E. Oram.
St. Johns, Newfoundland	.....	.....	.....	.....	8.0	—13 3	78	W	.....	.....	.....	2k	2n	.....	.....	0	0	Stormy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.79	756.7	30.04	763.0	— 1	—18.3	100	N	1	0.4			10n		Calm	0.27	6.9	Heavy snow	
Alpena, Michigan	29.17	740.9	29.85	758.2	20	— 6.7	85	N	13	5.8			10s		N	0.10	2.5	Cloudy	
Atlanta, Georgia	28.88	733.5	30.03	762.8	49	9.4	77	SE	11	4.9		2ck	2s	Calm	SE	0	0	Fair	
Atlantic City, New Jersey	29.87	758.7	29.88	758.9	33	0.6	100	E	12	5.4			10n		Calm	0.09	2.3	Light rain	
Augusta, Georgia	29.94	760.5	30.12	765.0	47	8.3	85	Calm	0	0			10s;sme		SW	0	0	Smoky	
Baltimore, Maryland	29.88	758.9	29.93	760.2	29	— 1.7	100	Calm	0	0			10n		Calm	0.03	0.8	Sleeting	
Barnegat, New Jersey	29.89	759 2	29.91	759.7	33	0.6	100	E	17	7.6			10n		Calm	0.44	11.2	Light rain	
Bismarck, Dakota	27.92	709.2	29.77	756.1	1	—17.2	100	NE	4	1.8			10s		Calm	0	0	Cloudy	
Boerne, Texas	28.62	726.9	29.93	760.2	55	12.8	87	NE	4	1.8			10s		Calm	Inap	Inap	Cloudy	
Boise City, Idaho	27.24	691.9	30.20	767.1	18	— 7.8	92	NW	2	0.9			10n		Calm	0.23	5.8	Light snow	
Boston, Massachusetts	30.00	762.0	30.17	766.3	6.0	—14.4	76	N	3	1.3			10n		Calm	0.09	2.3	Heavy snow	
Bracketville, Texas	28.93	734.8	29.96	761.0	59	15.0	35	NW	2	0.9			Fog			0	0	Foggy	
Breckenridge, Minnesota	28.83	732.3	29.96	761.0	—13	—25.0	100	SE	12	5.4		0	0			Inap.	Inap	Clear	
Brownsville, Texas	29.92	760.0	29.99	761.7	67	19.4	95	S	4	1.8			10s		Calm	0	0	Cloudy	
Buffalo, New York	28.88	733.5	29.61	752.1	16	— 8.9	100	NE	12	5.4			10n		Calm	0.29	7.4	Heavy snow	
Burkes, Arizona					24	— 4.4	24	Calm			0	2c	0	E		0	0	Clear	
Burlington, Vermont	29.73	755.1	30.05	763.3	5	—15.0	75	SE	3	1.3			10n		Calm	0.02	0.5	Light snow	
Cairo, Illinois	29.74	755.4	30.15	765.8	36	2.2	71	NW	8	3.6		6	0			0.15	3.8	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.16	639.0	29.96	761.0	31	— 0.6	69	N	4	1.8		2cs	0	E		0	0	Clear	
Camp Verde, Arizona					19	— 7.2	69	N			1	0	0			0	0	Clear	
Campo, California	27.45	697.2	30.02	762.5	18	— 7.8	52	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.01	762.2	30.02	762.5	48	8.9	93	W	8	3.6		5k	0	SW		0	0	Fair	
Cape Henry, Virginia	29.98	761.5	30.00	762.0	38	3.3	91	SW	6	2.7			Fog		Calm	0	0	Foggy	
Cape Lookout, N. Carolina	30.04	763.0	30.05	763.3	45	7.2	92	W	10	4.5		5ck	0	W		0	0	Fair	
Cape May, New Jersey	29.88	758.9	29.91	759.7	35	1.7	100	E	10	4.5			10n;fg		Calm	0.18	4.6	Light rain	
Castroville, Texas	29.27	743.4	29.97	761.2	59	15.0	94	E	6	2.7			10s		E	0	0	Cloudy	
Charleston, South Carolina	30.07	763.8	30.14	765.5	50	10.0	86	SW	4	1.8			10s		Calm	0	0	Cloudy	
Cheyenne, Wyoming	23.82	605.0	29.76	755.9	8	—13.5	55	W	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.15	740.4	29.87	758 7	27	— 2.8	76	NW	2	0.9		10cs	0	Calm		0.41	10.4	Cloudy	
Cincinnati, Ohio	29.16	740.7	29.81	757.2	41	5.0	69	NW	14	6 3			9ks		NW	0.66	16.8	Clearing	
Cleveland, Ohio	28.86	733.0	29.59	751.6	38	3.5	100	SW	18	8.0			10n		Calm	0.83	21.1	Light rain	
Coleman City, Texas	28.37	720.6	30.13	765.3	32	0.0	100	NW	12	5.4			10ks		N	0	0	Cloudy	
Columbus, Ohio	28.82	732.0	29.65	753.1	40	4.4	91	W	12	5.4			10s		W	0.29	7.4	Cloudy	
Corpus, Texas	28.20	716.3	29.94	760.5	40	4.4	64	NE	8	3 6		0	0			0	0	Clear	
Corsicana, Texas	29.69	754.1	30.18	766.6	41	5 0	50	NW	14	6.3			10s		Calm	0.05	1.3	Cloudy	
Davenport, Iowa	29.35	745.5	30.04	763.0	17	— 8.3	67	NW	8	3.6		0	0			0.33	8.4	Clear	
Deadwood, Dakota	25.16	639.0			18	— 7.8	68	SW	3	1.3		0	0			0	0	Clear	
Decatur, Texas	29.01	736 8	30.27	768.8	25	— 3.9	87	N	9	4.0		5c	0	SW		0	0	Fair	
Denison, Texas	29.37	746.0	30.22	767.6	28	— 2.2	77	N	8	3.6		2cs	0	Calm		0.03	0.8	Fair	
Denver, Colorado	24.61	625.1	29.83	757.7	3	—16.1	46	S	8	3.6		0	0			0	0	Clear	
Des Moines, Iowa	29.18	741.2	30.16	766.1	5	—15.0	75	N	6	2.7		0	0			0.51	13.0	Clear	
Detroit, Michigan	29.56	761.0	29.66	753.4	18	— 7.8	84	NE	8	3.6			10s		Calm	0.30	7.6	Cloudy	
Dodge City, Kansas	27.46	694.5	29.96	761.0	11	—11.7	80	NW	12	5.4		0	0			0	0	Clear	
Dubuque, Iowa	29.30	744.2	30.05	763.3	16	— 8.9	66	Calm	0	0			Fog		Calm	0.39	9.9	Foggy	
Duluth, Minnesota	29.21	741.9	29.95	760.7	9	—12.8	78	SW	3	1.3		0	0			0.09	2.3	Clear	
Eagle Pass, Texas	29.27	743.4	30.01	762.2	57	13.9	41	NW			2		10s		Calm	0	0	Cloudy	
Eastport, Maine	30.21	767.3	30.28	769.1	— 3	—19.4	83	NW	4	1.8			10s		NW	0	0	Cloudy	
Edinburg, Texas					64	17.8	94	S			1	0	8ks		S	0	0	Cloudy	
El Paso, Texas					46	7.8	55	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	28.83	732.3	29.54	750.3	35	1.7	80	NW	6	2.7			10n		Calm	0.28	7.1	Light rain	
Escanaba, Michigan	29.25	742.9	29.92	760.0	13	—10.6	81	N	7	3.1		0	5s		N	0.02	0.5	Fair	
Florence, Arizona	28 54	724.9	30.14	765.5	30	— 1.1	78	E			2	0	0			0	0	Clear	
Fort Buford, Dakota Ter.																			
Fort Craig, New Mexico	25.55	649.0	29.62	752 3	19	— 7.2	53	N	1	0.4		0	0			0	0	Clear	
Fort Davis, Texas	25.22	640 6	30.18	766.6	32	0.0	69	W	3	1.3		2c	0	W		0	0	Fair	
Fort Gibson, Indian Ter.	29.76	755 9	30.26	768.6	23	— 5.0	93	N	3	1.3		2c	0	N		0.03	0.8	Clear	
Fort Griffin, Texas	28 91	734.3	30.27	768.8	29	— 1.7	89	N	4	1.8			10s		N	0	0	Cloudy	
Fort Keogh, Montana Ter.					10	—12.2		NE	4	1.8			10s		Calm	0	0	Cloudy	
Fort McKavett, Texas	27.88	708.1	29.85	758.2	44	6.7	60	E	1	0.4		5k	0	SE		0	0	Fair	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.99	736.3	30.18	766.6	24	— 4.4	87	Calm	0	0		0	0			0	0	Clear	
Fort Stevenson, Dakota																			
Fredericksburg, Texas	28.35	720 1	29.91	759.7	58	14.4	42	NE	1	0.4		0	8ks		Calm	0	0	Fair	
Galveston, Texas	30.01	762.2	30.05	763 3	57	13.9	100	S	3	1.3			Fog		Calm	0	0	Foggy	
Graham, Texas	29.12	739 6	30.29	769.4	26	— 3.3	88	Calm	0	0		0	8s		Calm	0	0	Fair	
Grand Haven, Michigan	29.16	740.7	29.84	757.9	18	— 7.8	84	N	10	4.5			10s		Calm	0.26	6.6	Cloudy	
Indianapolis, Indiana	29 05	737.9	29.85	758.2	33	0.6	89	W	12	5.4			10n		W	0.92	23.4	Light rain	
Indianola, Texas	30.03	762.8	30.05	763.3	56	13.3	100	E	6	2.7			10s		SE	0.02	0.5	Threatening	
Jacksboro, Texas	29.10	739 1	30.32	770.1	25	— 3.9	62	NE	4	1.8		5c	0	N		0	0	Fair	
Jacksonville, Florida	30.17	766.3	30.19	766.8	56	13.3	81	SW	6	2.7		10k	0	SW		0	0	Cloudy	
Keokuk, Iowa	29.41	747.0	30.07	763.8	21	— 6.1	86	NW	8	3.6		0	5s		NW	0.22	5.6	Fair	
Key West, Florida	30.15	765.8	30.19	766.8	70	21.1	90	E	4	1.8		0	5s		SW	0	0	Fair	
Kittyhawk North Carolina	29.96	761.0	29.99	761.7	48	8.9	93	W	8	3.6		2c	5s	W	W	0	0	Fair	
Knoxville, Tennessee	28.92	734.6	29.92	760.0	52	11.1	73	SW	16	7.2			10n		SW	Inap.	Inap	Light rain	
La Crosse, Wisconsin	29.21	741.9	29.99	761.7	19	— 7.2	85	N	1	0.4		10k	0	N		0.22	5.6	Cloudy	
La Mesilla, New Mexico	26.14	663.9	30.28	769.1	25	— 3.3	75	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.57	751.1	29.91	759.7	61	16.1	100	NE	4	1.8			10n		Calm	Inap.	Inap.	Light rain	
Leavenworth, Kansas	29.31	744.5	30.23	767.8	12	—11.1	71	NW	1	0.4		0	0			0.92	23.4	Clear	
Los Angeles, California	29 75	755.6	30.11	764.8	39.0	3 9	55	NE	7	3.1		0	0			0	0	Clear	
Louisville, Kentucky	29.35	745.5	29.92	760 0	41	5.0	65	W	7	3.1			10s		SW	0.54	13.7	Cloudy	
Lynchburg, Virginia	29.24	742.7	29.94	760.5	33	0.6	89	W	3	1.3			10ks		Calm	0	0	Cloudy	
Madison, Wisconsin	28.93	734.8	29.98	761.5	18	— 7.8	68	NW	13	5.8		5k	0	NW		0.50	12.7	Fair	
Marquette, Michigan	29.19	741.4	29.93	760.2	18	— 7.8	68	W	4	1.8		0	2ks		NW	0	0	Fair	
Mason, Texas	28.47	723.1	30.26	768.6	51	10.6	53	N	4	1.8			10s		N	0	0	Cloudy	
Memphis, Tennessee	29.80	756.9	30.14	765.5	39	3.3	71	NW	10	4.5		5ck	0	W		0.05	1.3	Fair	
Milwaukee, Wisconsin	29.12	739.6	29.87	758.7	26	— 3.3	75	NW	13	5.8			10s		Calm	0.50	12.7	Cloudy	
Mobile, Alabama	30.09	764.3	30.13	765.3	54	12.2	96	S	7	3.1			10s		W	0	0	Cloudy	
Montgomery, Alabama	29.86	758.4	30.10	764.5	48	8.9	89	Calm	0	0			10ks;fg		NW;Calm	0	0	Cloudy	
Morgantown, West Virginia	28.64	727.4	29.68	753.9	43	6.1	92	SE	11	4.9			10n		SE	0.30	7.6	Light rain	
Mt. Washington, N. H.	23.40	594.4	29.76	755.9	— 4	—20.0	100	W	24	10.7			10		W	0.01	0.3	Light snow	
Nashville, Tennessee	29.45	748.0	29.98	761.5	50	10.0	79	W	8	3.6			10ks		W	Inap.	Inap.	Cloudy	
New Haven, Connecticut	29.93	760.2	30.06	763.5	5	—15.0	100	NE	21	9.4			10n			0.35	8.9	Heavy snow	
New London, Connecticut	30.05	763.3	30.10	764.5	12	—11.1	80	N	9	4.0			10n		Calm	0.22	5.6	Heavy snow	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	57	13.9	94	Calm	0	0			Fog		Calm	0	0	Foggy	
Newport, Rhode Island	30.06	763.5	30.12	765.0	14	—10.0	82	N	8	3.6			10n		Calm	0.29	5.1	Heavy snow	
New York, New York	29.79	756.7	29.98	761.5	21	— 6.1	100	NE	18	8.0			10n		Calm	0.73	18.5	Light snow	
Norfolk, Virginia	29.94	760.5	30.03	762.0	36	2.2	100	SW	4	1.8			Fog			0.01	0.3	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.08	687.8	29.91	759.2	2	—16.7	86	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Olympia, Washington Ter.	30.10	764.5	30.14	765.5	33.2	0.7	89	S	7	3.1	.....	.....	8s	.....	S	0.01	0.3	Cloudy.....	
Omaha, Nebraska	28.95	735.3	30.18	766.6	3	—16.1	73	W	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear.....	
Oswego, New York	29.53	750.0	29.86	758.4	18	— 7.8	84	E	6	2.7	.....	.....	10n	.....	.....	0.08	2.0	Light snow.	
Pembina, Dakota	28.93	734.8	29.88	758.9	—12	—24.4	100	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Philadelphia, Pa	29.91	759.7	29.97	761.2	30	— 1.1	100	NE	.....	.....	2	.....	10n;fg	.....	Calm	0.94	23.9	Light snow.	
Phœnix, Arizona	28.92	734.6	30.84	783.3	30	— 1.1	78	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.40	442.0	29.61	752.1	— 2	—18.8	35	SW	36	16.1	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	23.89	606.8	29.66	753.4	12	—11.1	61	NW	2	0.9	.....	8c	0	W	.....	0	0	Fair.....	
Pittsburg, Pennsylvania	28.80	731.5	29.60	751.8	42	5.6	91	SW	14	6.3	.....	.....	10n	.....	Calm	0.59	15.0	Heavy rain.	
Port Huron, Michigan	28.97	735.8	29.66	753.4	26	— 6.7	100	NE	8	3.6	.....	.....	10n	.....	Calm	0.30	7.6	Light snow.	
Portland, Maine	30.18	766.6	30.24	768.1	5	—15.0	75	N	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Portland, Oregon	30.18	766.6	30.29	769.4	36.0	2.2	90	S	6	2.7	.....	.....	10s	.....	.....	0.17	4.3	Cloudy.....	
Prescott, Arizona	24.66	626.4	30.02	762.5	9	—12.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	29.14	740.1	30.02	762.5	24	— 4.4	48	N	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Punta Rassa, Florida	30.19	766.8	30.21	767.3	62	16.7	83	W	3	1.3	.....	2k	0	SW	.....	0	0	Fair.....	
Red Bluff, California	29.94	760.5	30.33	770.4	30	— 1.1	78	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.80	756.9	30.02	762.5	63	17.2	89	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy.....	
Rochester, New York	29.07	738.4	29.72	754.9	12	—11.1	90	E	14	6.3	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Roseburg, Oregon	29.76	755.9	30.36	771.1	33.0	0.6	95	Calm	0	0	.....	Haze	2s	.....	Calm	0.42	10.7	Fair.....	
Sacramento, California	30.20	767.1	30.28	769.1	32.3	0.2	87	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.54	750.3	30.14	765.5	26	— 3.3	88	NW	20	8.9	.....	.....	10s	.....	Calm	0.60	15.2	Cloudy.....	
St. Marks, Florida	30.16	766.1	30.18	766.6	50	10.0	100	S	3	1.3	.....	0	5s;fg	.....	Calm	0	0	Fair.....	
St. Paul, Minnesota	29.10	739.1	29.99	761.7	12	—11.1	80	SW	7	3.1	.....	0	5s	.....	Calm	0.05	1.3	Fair.....	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	25	— 3.9	75	E	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
San Antonio, Texas	29.37	746.0	29.95	760.7	60	15.6	88	NE	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
San Diego, California	30.06	763.5	30.14	765.5	35.8	2.1	75	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Sandusky, Ohio	28.98	736.1	29.66	753.4	32	0.0	89	W	8	3.6	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy.....	
Sandy Hook, New Jersey	29.93	760.2	29.97	761.2	26	— 3.3	100	E	30	13.4	.....	.....	10n	.....	E	0.37	9.4	Light snow.	
San Francisco, California	30.21	767.3	30.28	769.1	43	6.1	77	N	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.16	588.2	29.70	754.4	10	—12.2	58	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.04	763.0	30.14	765.5	52	11.1	93	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Shreveport, Louisiana	29.92	760.0	30.14	765.5	48	8.9	78	NW	4	1.8	.....	.....	10s	.....	N	0.08	2.0	Cloudy.....	
Silver City, New Mexico	24.35	618.5	30.84	783.3	25	— 3.9	75	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	30.07	763.8	30.11	764.8	43	6.1	100	W	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog ...	
Springfield, Massachusetts	29.96	761.0	30.11	764.8	5	—15.0	75	N	8	3.6	.....	.....	10n	.....	N	0.18	4.6	Light snow..	
Stockton, Texas	27.06	687.3	30.06	763.5	30	— 1.1	89	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.10	764.5	30.16	766.1	12	—11.1	80	NW	14	6.3	.....	.....	10n	.....	NW	0.24	6.1	Heavy snow	
Toledo, Ohio	28.94	735.1	29.63	752.6	24	— 4.4	87	N	6	2.7	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	29	— 1.7	36	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Tybee Island, Georgia	30.12	765.0	30.15	765.8	49	9.4	93	NW	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Umatilla, Oregon	29.84	757.9	30.38	771.6	15.0	— 9.4	82	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	29	— 1.7	89	NE	.....	.....	4	.....	10s	.....	N	Inap.	Inap.	Cloudy.....	
Uvalde, Texas	29.20	741.7	30.01	762.2	60	15.6	49	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Vicksburg, Mississippi	29.86	758.4	30.12	765.0	56	13.3	94	Calm	0	0	.....	.....	10s	.....	W	0.05	1.3	Cloudy.....	
Virginia City, Montana	24.08	611.6	29.56	750.8	9	—12.8	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California	29.86	758.4	30.26	768.6	27	— 2.8	88	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.81	757.2	29.93	760.2	24	— 4.4	93	E	5	2.2	.....	.....	10n	.....	Calm	0.05	1.3	Sleeting.....	
Wickenburg, Arizona	.....	.....	.....	.....	27	— 2.8	53	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina	30.00	762.0	30.08	764.0	43	6.1	91	W	8	3.6	.....	.....	Fog	.....	Calm	0	0	Dense fog....	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	16	— 8.9	83	SW	9	4.0	.....	5k	5s	W	.....	0.19	4.8	Cloudy.....	
Wood's Holl, Mass	30.08	764.0	30.04	763.0	18	— 7.8	84	E	8	3.6	.....	.....	10n	.....	Calm	0.10	2.5	Heavy snow	
Yankton, Dakota	28.74	730.0	30.20	767.1	— 6	—21.1	61	SE	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Yuma, Arizona	29.92	760.0	30.09	764.3	34	1.1	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayettville, Ark	28.60	726.4	30.13	765.3	18	— 7.8	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.11	764.8	30.13	765.3	69	20.6	79	Calm	0	0	.....	0	0	.....	E	0	0	Foggy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.21	767.3	30.22	767.6	77	25.0	90	Calm	0	0	.....	5c	8s	S	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.99	761.7	30.07	763.8	79	26.1	.....	SE	6.2	2.8	.....	.....	.....	.....	.....	0	0	Cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	77	25.0	95	E	.....	.....	3	3c	5k	E	.....	0.730	18.54	⅗ clouded....	C. J. Joerine.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.02	762.5	30.08	764.0	—30.5	—34.7	.....	N	11	4.9	.....	Fog	Fog	.....	.....	0	0	Foggy	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,233 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,473.2 (?) m.; Camp Verde, 2,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,779 (?) ft., or 583.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,422 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,263 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 241.1 (?) m.; La Mesilla, (?); Mason, 1,860 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 m.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—12.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.19	766.8	37	2.8	36	2.2	80	ESE	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.25	768.3	58	14.4	58	14.4	88	E	1	0.4	.....	.....	10	.....	W	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.10	764.5	51	10.6	4	—15.6	74	NNW?	.0?	0?	.....	.....	10	.....	.....	.....	.....	.....	.....	Showery	
Naval Hospital, Yokohama, Japan *	29.72‡	754.9‡	.....	.....	46	7.8	62	WSW	.....	.....	5	.....	4k;s	.....	SW	0.39	9.9	.....	.....	Fair	
Alliance, Smyrna, Turkey	29.99‡	761.7‡	.....	.....	53	11.7	61	SSE	.....	.....	0–1	.....	9	.....	S;W	.....	.....	.....	.....	Threatening	
Ashuelot, N. 13° 43′, E. 100° 29′	29.95	760.7	84	28.9	80	26.7	82	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy	
Canonicus, New Orleans, La.	30.08	764.0	43	6.1	52	11.1	86	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.	29.90	759.4	22	— 5.6	21	- 6.1	??	NE	3	1.3	.....	.....	10	.....	SW	0.65	16.5	.....	.....	Snowing	
Constitution, Havre, France	29.71‡	754.6‡	.....	.....	38	3.3	100	E	17	7.6	.....	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Despatch, Constantinople, Turkey	30.01‡	762.2‡	.....	.....	39	3.9	82	W	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	30.14	765.5	75	23.9	39	3.9	82	W	7.2	3.2	.....	.....	10	.....	Calm	0	0	.....	.....	Foggy	
Gettysburg, Villafranca, France	29.97‡	761.2‡	.....	.....	58	14.4	82	Calm	.....	.....	0	.....	8	.....	.....	0	0	.....	.....	D. clouds	
Hartford; Montevideo, Uruguay	29.89	759.2	70	21.1	66	18.9	74	W	17	7.6	.....	.....	5	.....	W	0	0	Mod'ate	W	Fair	
Lackawana, Panama	29.73‡	755.1‡	.....	.....	77	25.0	95	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	.....	Fair	
Michigan, Erie, Pa.	29.82†	757.4†	....	.....	30	— 1.1	78	E	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Monocacy. N. 35° 05′, E. 139° 45′ *	29.69‡	754.1‡	.....	.....	50	10.0	79	WSW	.....	.....	5–7	.....	5	.....	WSW	.....	.....	Rough	WSW	Squally	
Monongehela, Yokohama, Japan	29.71‡	754.6‡	.....	.....	48	8.9	70	SW	.....	.....	2–6	.....	3	.....	SW	Blank	Blank	.....	.....	Squally	
New Hampshire, Port Royal, S. C.	30.24†	768.1†	.....	.....	50	10.0	100	SW	2	0.9	.....	.....	10	.....	WSW	0.20	5.1	.....	.....	Foggy	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	60	15.6	95	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.39	771.9	31	— 0.6	25	— 3.9	87	N	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	26	— 3.3	75	SE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Panama	29.93‡	760.2‡	.....	.....	77	25.0	95	NW	9	4.0	.....	.....	2	.....	NW	0	0	Smooth	.....	Clear	
Powhatan, Norfolk, Va.	30.00	762.0	39	3.9	39	3.9	91	NE	3.6	1.6	.....	.....	.....	.....	.....	0.1	3.	.....	.....	Foggy	
Quinnebaug, N. 35° 56′, W. 60° 45′	30.26‡	768.6‡	.....	.....	51	10.6	72	NNW	.....	.....	3	.....	10	.....	N	.....	.....	Long mod'ate	NW	Sprinkling	
Ranger, Yokohama, Japan	29.69‡	754.1‡	.....	.....	50	10.0	64	S	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, N. 35° 33′, W. 58° 25′	30.26‡	768.6‡	.....	.....	54	12.2	93	WNW	.....	.....	4	.....	8	.....	.....	.....	.....	Mod'ate	N	Fair	
Rio Bravo, Brownsville, Texas	29.92	760.0	68	20.0	67	19.4	100	SW	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md	29.94‡	760.5‡	.....	.....	27	— 2.8	.....	E	.....	.....	3	.....	.....	.....	.....	0	0	.....	.....	Overcast	
St. Louis, League Island, Pa.	29.94	760.5	57	13.9	27	— 2.8	.....	E	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Supply, N. 46° 17′, W. 10° 44′	29.96‡	761.0‡	.....	.....	53	11.7	86	NW	.....	.....	4–5	.....	10	.....	.....	.....	.....	Heavy	NW	Overcast	
Trenton Villafranca, France *	30.01‡	762.2‡	.....	.....	58	14.4	64	E	.....	.....	0–1	.....	1	.....	Calm	0	0	.....	.....	Fair	
Tuscarora, Panama	29.91‡	759.7‡	.....	.....	78	25.6	86	NNW	.....	.....	2	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy	
Wabash, Boston, Mass.	30.25‡	768.3‡	.....	.....	6	14.4	100	NE	4	1.8	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing	
Wyoming, N. 40° 56′, E. 13° 23′	30.12	765.0	62	16.7	55	12.8	87	ENE	.....	.....	2–3	.....	8	.....	E	.....	.....	Smooth	E	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4: weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hostpital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—12.	0—10.	0—10.	From—	From—		Character.	Direction from—		

PACIFIC MAIL S. S. CO. MARINE SERIES.

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

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 15° 52′, W. 97° 45′		29.99*	761.7*	76	24.4	100	N			2		3		Calm		Small	SE	Misty	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Grenada, N. 14° 20′, W. 92° 82′		30.13*	765.3*	81	27.2	??	Calm			0		0			0	Smooth		Fine	R. C. Ghest, 1st Officer
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.02	762 5				Calm			0		0						Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off
S. S. Gaelic, N. 43° 58′, E. 165° 58′		30.07†	763.8†	37	2.8	??	S			6		k		NW		High	S	Raining	Capt. W. H. Ridley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 48° 06′ W. 22° 29′		29.40	746 7	59.0	15.0		S			6–8		10		SW	Blank	9	S	Foggy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaegel.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		29.83*	757.7*	25	— 3.9	75	NE			6		8		NE	0			Cloudy	Captain Sargent.
S. S. Ohio, N. 51° 25', W. 9° 20'		29.83†	757.7†	46	7.8	??	E			2		2		E	0	Cross	SE;NW	Fair	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co,. Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Orient, Long Island		30.04	763.0	43	6.1	92	NE	14	6.3			10n		NE	0.50 in. or 12.7 mm.			Overcast	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

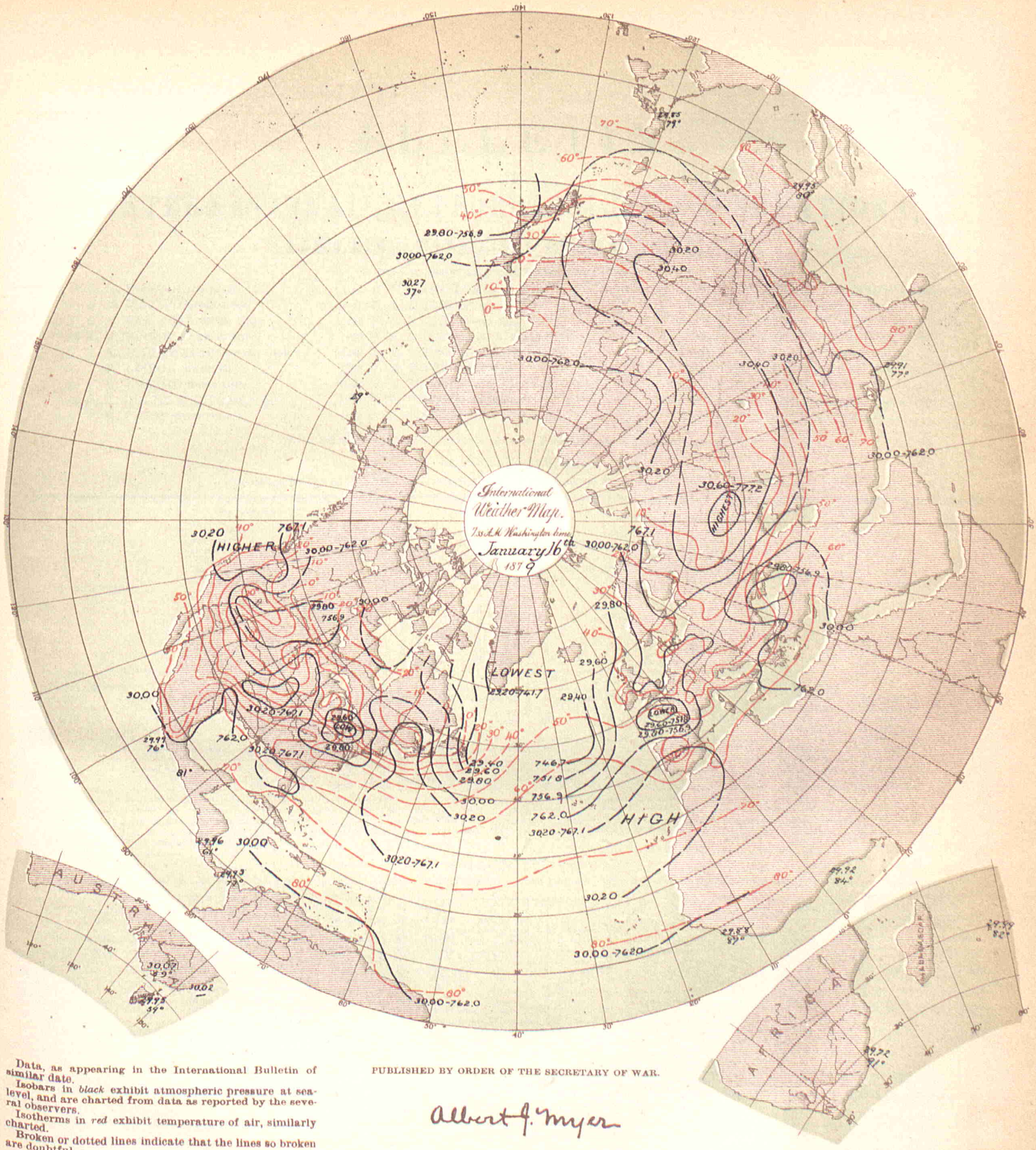
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 17, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.28	769.2	61.2	16.2	82	NE	.....	.....	3	.....	1	.....	.....	0	0	Very fair.	
Nemours	.....	.....	30.26	768.6	63.7	17.6	78	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.09	764.3	59.0	15.0	80	W	.....	.....	7	.....	5	.....	.....	Inap.	Inap.	Cloudy	Tourillere.
La Calle	.....	.....	30.06	763.5	52.5	11.5	83	NW	.....	.....	6	.....	10	.....	.....	0.161	4.1	Raining	Foufrede.
Tunis	.....	.....	30.01	762.3	61.2	16.2	88	NW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.11	764.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.15	765.9	59.0	15.0	39	N	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.06	763.4	52.2	11.2	54	WNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.11	764.7	49.6	9.8	97	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugnlaux.
Laghouat	.....	.....	30.10	764.5	63.7	17.6	24	WSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.09	764.3	63.5	17.5	35	NNW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.48	748.9	30.07	763.7	27 3	— 2.6	96	.....	.....	.....	.....	.....	7	.....	.....	Inap.	Inap.	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.7	30.12	765.1	32 7	0.4	92	SSW	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.18	741.2	30.12	765.0	26.6	— 3.0	78	Calm	.....	.....	0	.....	10	.....	.....	Inap.	Inap.	.....	Julius Mikolik.
Gratz	28.82	732.0	30.15	765.7	26.2	- 3.2	91	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospim
Hermannstadt	28.60	726.3	30.12	765.0	25.5	— 3.6	82	NNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.67	728.2	30.26	769.0	30.6	— 0.8	98	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.1	30.11	764.8	27.1	— 2.7	96	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.88	759.0	30.00	762.0	48.6	9.2	75	S	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.66	753.4	30.24	768.0	28.0	— 2.2	92	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.82	757.5	30.12	765.0	29.5	— 1.4	88	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.94	760.4	30.04	763.0	45.7	7.6	76	ESE	.....	.....	1	.....	6	.....	.....	0	0	½ covered	P. Busin.
Vienna	29.41	746.9	30.17	766.2	29.1	— 1.6	94	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.10	764.5	30.20	767.1	37.2	2.9	.....	S	7	3.1	.....	.....	6	.....	.....	0.055	1.40	D. clouds.....	W. Boswell.
Ardrossan	30.04	763.0	30.06	763.5	36	2.2	.....	ENE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	29.96	761.0	40.5	4.7	.....	SSE	24	10.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Cail.
Bidston, (Liverpool Obs.)	.....	.....	30.16	766.1	35.4	1.9	.....	ESE	18	8.0	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.19	766.8	36.8	2.7	.....	E	12	5.4	.....	.....	5	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.80	756.9	30.20	767.1	37.3	2.9	.....	SE	.....	.....	2	.....	10	.....	.....	0.01	0.3	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	30.02	762.5	30.05	763.3	80.5	26.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	30.24	768.1	35.0	1.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [O.
Cardington	.....	.....	30.31	769.9	33.4	0.8	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.12	765.0	30.26	768.6	34.2	1.2	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Foggy	Corpl. Davis.
Dartmoor	28.13	714.5	29.68	753.9	41.0	5.0	.....	NW	.....	.....	4	.....	7	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.00	762.0	30.05	763.3	42	5.6	.....	SSE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.20	767.1	30.23	767.8	39	3.9	.....	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	Misty..	J. Costello.
Falmouth, Observatory	29.87	758.7	30.11	764.8	44.3	6.8	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.36	694.9	29.68	753.9	81.0	27.2	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	86	30.0	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.71	754.6	46	7.8	.....	SSE	.....	.....	8	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.16	766.1	30.22	767.6	62.5	16.9	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.89	759.2	30.09	764.3	33.7	0.9	.....	ENE	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.22	767.6	30.22	767.6	37	2.8	.....	NNE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	30.07	763.8	30.25	768.3	32.4	0.2	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Dense fog.....	The Staff, for G. B. Airy
Guernsey	29.93	760.2	30.16	766.1	40	4.4	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	Dr. S. E. Hoskins, F.R.S.
Helston	30.01	762.2	30.13	765.3	46	7.8	.....	S	.....	.....	4	.....	10k	.....	.....	0.10	2.5	Showery	M. P. Moyle.
Holyhead	29.99	761.7	30.04	763.0	39	3.9	.....	SSE	.....	.....	2	.....	10	.....	.....	0.017	0.43	Overcast.....	John Tilston.
Jersey	29.89	759.2	30.20	767.1	37.3	2.9	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	J. Fisher.
Kew, Observatory	30.21	767.3	30.25	768.3	32.1	0.1	.....	N	1	0.4	.....	.....	.....	.....	.....	.....	.....	Foggy.....	The Staff.
Leicester, Museum	29.96	761.0	30.24	768.1	28.6	— 1.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.93	760.2	30.00	762.0	59	15.0	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Naira	29.96	761.0	30.05	763.3	35	1.7	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.20	767.1	70.2	21.2	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.83	757.7	30.02	762.5	34.8	1.6	.....	ESE	.....	.....	1	.....	10k;s	.....	SE	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.67	753.6	30.22	767.6	35.0	1.7	.....	SE	.....	.....	1–2	.....	9	.....	.....	.....	.....	Foggy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.25	768.3	34	1.1	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	30.07	763.8	30.14	765.5	42.0	5.6	.....	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.80	756.9	29.84	757.9	47	8.3	.....	S	.....	.....	8	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	29.90	759.4	30.06	763.5	40	4.4	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	30.13	765.3	38	3.3	.....	SE	35	15.6	.....	.....	1	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.04	763.0	44.8	7.1	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.. ..	Sergt. W. H. Lyne.
Sheffield	29.94	760.5	30.23	767.8	37.3	2.9	.....	SSE	.....	.....	1	.....	10	.....	.....	0.01	0.3	Overcast.....	W. F. Cooper.
Silloth Rectory	30.11	764.8	30.14	765.5	38.0	3.3	.....	SE	.....	.....	1	.....	2	.....	.....	0.220	5.59	D. clouds.....	F. H. Redford.
Stonyhurst Observatory	29.78	756.4	30.18	766.6	37.9	3.3	83	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stranraer Turgiss	30.07	763.8	30.31	769.9	32.8	0.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Rev. C. H. Griffith, F.M.S
Thurso	30.03	762.8	30.09	764.3	38	3.3	.....	ESE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro Royal Institution	.....	.....	30.07	763.8	46	7.8	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.64	752.8	29.66	753.4	48.9	9.4	.....	SE	49	21.9	.....	.....	10	.....	.....	.....	.....	Heavy rain.	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29 82	757.4	62	16.7	.....	SE	.....	.....	2	.....	10kn	.....	.....	0	0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.16	766.1	32.0	0.0	88	SE	.....	.....	2	5cs	.....	NW	.....	0.17	4.3	Fine	Andrew Gibb.
Mauritius, Observatory	29.73	756.4	29.97	761.2	82.0	27.8	.....	ESE	16.0	7.2	.....	0	3	.....	ESE	0.12	3.0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	61.0	16.1	58	S	8	3.6	.....	.....	10	.....	.....	0	0	Threatning..	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.72	754.9	43	6.1	65	SSE	.....	.....	8	.....	10	SW	.....	0.2	5.	.....	J. Youngehuse.
North Unst, (Shetland Is.)	.....	.....	30.14	765.5	40	4.4	.....	S	.....	.....	6	4	2	S	.....	0	0	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	WEATHER.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.28	667.5	30.00	762.0	64.0	17.8	85	NE	.....	.....	2	1ck	.....	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.19	766.9	30.24	768.1	31.5	— 0.3	94	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.26	768.6	30.28	769.1	31.1	— 0.5	96	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	28.80	731.4	28.84	732.5	33.3	0.7	52	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	.....	.....
Styk'shelm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.93	760.1	29.96	761.0	44.4	5.2	92	S	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	30.20	767.1	30.37	771.4	28.4	— 2.0	96	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.70	754.4	30.25	768.4	38.5	3.6	93	E	.....	.....	1	.....	10	.....	.....	0.173	4.4	Covered	Collignon, Director.
Amiens, Normal School	30.12	765.0	30.23	767.9	35.1	1.8	93	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.98	761.6	30.07	763.6	49.3	9.6	74	N	.....	.....	1	.....	0	.....	.....	0.291	7.4	Very clear	M. Girand, Director.
Bar-sur-Seine	29.63	752.7	30.23	767.8	35.1	1.7	93	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.98	761.4	30.27	768.9	33.8	1	90	ENE	.....	.....	1	.....	10	.....	.....	0.045	1.15	Covered	Frère Eugene Marie, Dir.
Besançon, Normal School	29.25	743.0	30.18	766.6	39.7	4.3	87	E	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	29.28	743.8	30.12	766.8	35.4	1.9	93	N	.....	.....	1	.....	10n	W	W	.....	.....	Raining	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet Director.
Brest, Naval Observatory	29.83	757.7	30.08	763.9	45.0	7.2	85	S	.....	.....	3	.....	10	.....	S	0.197	5.00	.....	M. de Rermaur, Director.
Carcassonne, Normal School	29.78	756.4	30.21	767.2	50.0	10	72	W	.....	.....	1	.....	5	W	W	0.146	3.7	Cloudy	September, Director.
Caen, Normal School	30.16	766.0	30.23	767.9	39.2	4	78	SSE	.....	.....	2	.....	5	.....	NW	0.087	2.2	Cloudy	M. Lair, Director.
Chartres, Normal School	29.62	752.3	30.22	767.5	32.0	0	93	N	.....	.....	1	.....	5	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.3	30.23	767.9	33.8	1.0	100	N	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.77	730.7	30.16	766.0	44.2	6.8	79	N	.....	.....	1	.....	10	.....	NW	0.063	1.6	Covered	Alluard, Director.
Commercy, Normal School	29.36	745.7	30.27	768.9	32.9	0.5	96	NE	.....	.....	1	.....	10kn	.....	NE	0	0	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.91	734.2	30.05	763.2	45.7	7.6	83	W	.....	.....	1	.....	10	.....	W	0.244	6.2	Covered	M. King, Director.
Grenoble, Normal School	29.35	745.5	30.15	765.9	36.3	2.4	93	NNE	.....	.....	1	.....	10n	.....	N	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.97	761.2	30.19	766.9	42.8	6.0	97	NNW	.....	.....	1	.....	10	.....	.....	0.492	12.5	Covered	Mouillot, Director.
Le Mans, Normal School	29.93	760.2	30.25	768.4	36.5	2.5	97	SE	.....	.....	3	.....	10	.....	.....	0.128	3.25	Covered	Pourrier, Director.
Lons-Le-Saulnier, N.School	29.20	741.7	30.17	766.4	36.5	2.5	96	NW	.....	.....	1	.....	5	.....	W	0.165	4.20	Cloudy	Baudry, Director.
Lorient, Naval Observatory	30.09	764.3	30.19	766.8	43.5	6.4	97	ESE	.....	.....	2	.....	.....	.....	E	0.378	9.6	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	29.08	738.6	30.17	766.2	34.9	1.6	89	NE	.....	.....	3	.....	n	.....	SW	0	0	.....	M. Barbier, Director.
Nismes Normal School	29.80	759.2	30.10	764.5	53.6	12	56	N	.....	.....	1	.....	0	.....	.....	0.167	4.25	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	23.19	639.8	.....	.....	28.8	— 1.8	100	WNW	.....	.....	3	.....	.....	.....	.....	0.110	2.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.18	766.6	30.21	767.4	47.3	8.5	90	SSE	.....	.....	1	.....	10	SSE	SSE	0.20	5.	Covered	Lt. Decante, Director.
Rouen, Normal School	30.16	766.1	30.25	768.3	33.8	1.0	85	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.15	765.9	30.19	766.7	37.9	3.3	92	SSE	.....	.....	2	.....	10	SSE	SSE	0.109	2.77	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.09	764.3	30.26	768.5	32.9	0.5	88	N	.....	.....	1	.....	10	.....	NNE	0	0	Covered	E. Leaoe, Director.
Tarbes, Normal School	29.90	736.6	30.09	764.2	53.6	12	54	S	.....	.....	2	.....	2	W	SW	0	0	Slightly cl'dy	T. Roguet, Director.
Villefranche-sur-Saone, N.S.	29.50	749.2	30.23	767.9	38.5	3.6	97	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.03	762.8	30.06	763.5	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchés.
Lyons, Observatory	.....	.....	30.14	765.6	39.7	4.3	92	NNE	.....	.....	1	.....	10	.....	.....	0.118	3.0	Rainy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.90	632.5	30.22	767.5	43.7	6.5	58	WNW	13.0	5.8	.....	.....	3	.....	.....	0.059	1.5	.....	M. Cave.
Nice	.....	.....	29.98	761.4	53.2	11.8	63	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.97	761.1	.....	.....	31.6	— 0.2	92	N	.....	.....	1	.....	10	.....	.....	Inap.	Inap	.....	Marié Davy, Director
Perpignan	29.96	761.0	30.07	763.7	56.3	13.5	61	NW	33.6	15.0	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Brylac.
Pic du Midi (Plantade)	22.53	573.2	.....	.....	33.4	0.8	.....	N	.....	.....	2	.....	1	.....	.....	0	0	Clear	Capt de Nansouty.
Toulouse, Observatory	29.50	749.2	30.23	767.7	48.7	9.3	81	NW	.....	.....	3	.....	9	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	30.04	763.0	30.24	768.0	37.0	2.8	94	NE	.....	.....	1	.....	10	.....	.....	0.169	4.3	Light mist	Cousin-Marquet.
Versailles Observatory	.....	.....	30.24	768.1	33.4	0.8	.....	N	.....	.....	1	.....	10	.....	.....	0.007	0.17	Light fog	Dr. Angot. ny, Director
Zi-Ka-Wei, (near Shanghai)	30.40	772.1	30.42	772.7	35.6	2.0	69	NE	2.9	1.3	.....	.....	10k	.....	.....	0	0	Covered	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per sec'cond.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.24	742.6	30.08	764.1	28.4	— 2.0	92	NW	.....	.....	4	.....	9	W	....	0	0	....	Prof. Dr. Hoh.
Berlin	30.00	762.1	30.19	766.7	29.1	— 1.6	76	N	.....	.....	1	.....	10	.....	.....	0.055	1.4	.....	Prof. Arndt.
Breslau	29.60	751.9	30.13	765.4	32.7	0.4	98	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & snow	Royal University Obs'y
Carlsruhe	29.71	754.5	30.15	765.9	34.9	1.6	86	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Albert Senz.
Cassel	29.55	750.5	30.16	766.0	32.0	0.0	85	SSW	.....	.....	1	.....	10	SW	....	0.048	1.22	Snowing.....	Dr. H. Möhl.
Crefeld	30.00	762.0	30.16	766.1	32.9	0.5	90	NW	.....	.....	2	.....	10	.....	.....	0.04	1.	Snowing.....	Director Lose.
Emden	.....	.....	.....	.....	31.3	— 0.4	83	E	.....	.....	3	.....	10	.....	.....	0.079	2.0	....	Prof. Prestel.
Frankfort on the Main	29.80	756.8	30.18	766.6	35.6	2.0	.....	NNE	.....	.....	1	.....	3	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.63	727.3	30.14	765.5	31.5	— 0.3	71	NE	.....	.....	2	.....	10	NE	.....	0.012	0.3	Snowing.....	M. Wilhelm.
Hamburg	30.17	766.3	30.24	768.2	29.3	— 1.5	84	NE	.....	.....	1	.....	4k	.....	.....	0.020	0.5	Fair...	Captain F. Hegemann
Kiel	30.22	767.6	30.24	768 0	32.9	0.5	89	NE	.....	.....	1	.....	10	.....	.....	0.020	0.51	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.10	764.5	30.19	766.7	23.4	— 4.8	100	E	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. E Luther.
Köslin	.....	.....	30.13	765.3	26.1	— 3.3	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.73	755.1	30.17	766.3	32 7	0.4	96	W	.....	.....	1	.....	10	.....	.....	0.118	3.0	Foggy	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.17	766.4	30.22	767.6	20.1	— 6.6	92	SE	.....	.....	1	.....	10ks	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	30.17	766.3	30.19	766.7	27.5	— 2.5	83	Calm	.....	.....	0	.....	10	.....	.....	0	0	Misty.....	A. Lothes.
Posen	29.87	758.8	30.18	766.6	25.9	— 3.4	92	E	.....	.....	4	.....	10	.....	.....	0.016	0.4	Snowing.....	Dr. Magener.
Strassburg (in Alsace)	29.61	752.1	30.19	766.8	34.5	1.4	91	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.15	740.5	30.14	765.6	32.0	0.0	100	NE	.....	.....	1	.....	8	E	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.59	726.1	30.19	766.9	25.0	— 3.9	98	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Dr. Van Bebber.
Wustrow, Naval School	30.20	767.1	30.23	767.7	32.7	0.4	85	SE	.....	.....	1	.....	8s	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.63	752.6	30.03	762.7	54.0	12.2	.....	NE	.....	.....	1.0	.....	.....	....	.....	.....	.....	½ Clear.....	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.4	30.03	762.7	73.9	23.3	56	W	.....	.....	.....	.....	2	W	.....	0	0	D. clouds.....	
Deesa	29.49	748.9	29.97	761.3	73.0	22.8	20	N	.....	.....	.....	.....	2	W	.....	0	0	D. clouds.....	
Bombay	29.84	758.0	29.88	759.0	77.7	25.4	72	NNW	17.0	7.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.87	707.9	29.87	758.7	79.4	26.3	.....	ESE	.....	.....	.....	.....	0	....	.....	0	0	Blue sky.....	
Lahore	29.29	744.0	30.07	763.8	57.6	14.2	39	Calm	2.0	0.9	.....	.....	2	.....	.....	0	0	Blue sky.....	
Belgaum	27.35	694.6	29.88	758.8	77.8	25.4	35	ENE	2,0	0.9	.....	.....	1	.....	.....	0	0	D. clouds.....	
Roorkee	29.05	737.8	29.99	761.7	60.8	16.0	40	NW	3.3	1.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.40	746.7	29.99	761.7	62.3	16.8	49	W	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.87	733.2	29.92	760.0	76.6	24.8	31	Calm	2.7	1.2	.....	.....	0	.....	....	0	0	Blue sky.....	
Lucknow	29.58	751.2	29.96	761.0	65.1	18.4	26	NNW	2.2	1.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.65	753.1	29.97	761.3	65.7	18.7	46	NW	3.3	1.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.73	755.0	29.92	759.8	68.4	20.2	47	W	2.6	1.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.85	707.4	29.92	759.8	65.6	18.7	39	W	7.5	3.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.79	756.7	29.88	758.8	77.0	25.0	60	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.84	758.0	29.87	758.6	69.0	20.6	69	NNW	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	69.1	20.6	69	Calm	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.86	758.5	29.96	760.9	66.3	19.1	85	NW	3.0	1.3	.....	.....	9	.....	.....	0	0	Overcast	
Sibsagar	29.56	750.9	29.91	759.7	62.3	16.8	88	ENE	0.5	0.2	.....	.....	10	S	S	0	0	D. clouds.....	
Jubbulpore	28.59	726.2	30.00	762.0	65.8	18.8	44	Calm	4.1	1.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.3	30.05	763.2	44.1	6.7	52	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.91	759.8	30.03	762.7	43.2	6.2	63	NNE	3.1	1.4	.....	.....	7	S	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.50	749.2	30.04	763.0	36.3	2.4	57	W	.....	.....	1	.....	5	NW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.07	738.3	30.02	762.4	37.9	3.3	78	N	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.05	712.4	30.04	762.9	36.5	2.5	55	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.79	756.6	29.98	761.6	46.4	8.0	42	N	8.1	3.6	.....	.....	6	SW	.....	0.012	0.3	.....	Prof. G. M. Garibaldi.
Florence	29.71	754.5	29.97	761.3	47.3	8.5	60	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.85	758.3	29.95	760.6	47.7	8.7	64	NE	9.4	4.2	.....	.....	10	.....	.....	0.043	1.1	.....	Prof. P. Monte.
Pesaro	29.97	761.2	30.02	762.5	39.6	4.2	85	N	14.3	6.4	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.75	755.6	29.93	760.2	53.1	11.7	75	E	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.78	756.3	30.01	762.9	48.0	8.9	74	NNE	4.3	1.9	.....	.....	8	.....	.....	0.020	0.5	.....	Prof. C. De Giorgi.
Cagliari	29.70	754.3	29.89	759.3	57.2	14.0	65	W	.....	.....	4	.....	3	N	.....	0.228	5.8	.....	Prof. A. Pacinotti.
Cosenza	29.08	738.7	29.98	761.6	49.5	9.7	75	SE	0	0	.....	.....	10	.....	.....	0.154	3.9	.....	Prof. D. Conti.
Palermo	29.72	754.8	29.98	761.4	53.4	11.9	71	WSW	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.95	760.6	30.02	762.5	54.6	12.2	73	SE	3.8	1.7	.....	.....	9	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	52.9	11.6	71	WSW	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.17	766.3	30.19	766.8	34.8	1.6	75	N	2.8	1.3	.....	.....	0	.....	.....	0	0	Clear	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.04	763.0	30.25	768.3	37.1	2.8	70	Calm	0	0	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.90	759.4	29.98	761.5	33.2	0.7	61	NNW	8.7	3.9	.....	.....	1s	.....	.....	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.8	30.32	770.1	41.9	5.5	58	W	.....	.....	1	0	2s	.....	S	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.16	766.2	54.5	12.5	75	NNW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.19	586.5	30.24	768.2	45.5	7.5	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	51.8	11.0	59	Calm	.....	.....	0	.....	8ks	.....	SW	0	0	Misty	M. V. de Leon, M. E.
Tlacotalpam	30.03	762.6	30.04	762.9	70.3	21.3	93	S	.....	.....	2	0	0	.....	.....	0	0	Hazy	M. M. Cházaro.
San Luis Potosi	24.23	614.6	30.19	766.7	49.0	9.4	14	SSE	.....	.....	1	0	0	.....	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	30.02	762.6	30.05	763.2	69.8	21.0	91	SW	.....	.....	0	.....	6ks	.....	SW	0	0	½ clouded	Prof. J. Rossell.
Zacatecas	22.58	573.6	.....	.....	53.6	12	62	SW	.....	.....	2	0	2	.....	SW	0	0	½ clouded	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.43	595.0	30.18	766.5	41.5	5.3	85	NNE	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.44	722.5	30.13	765.2	70.7	21.5	55	NE	.....	.....	1	0	1	.....	.....	0	0	Clear	R. Panda, C. E.
San Juan E. Michapam	29.89	759.3	30.03	762.7	71.5	21.9	.....	N	.....	.....	1	7n	3n	NW	NW	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,559.5 m., or 5,196.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	30.21	767.4	30.21	767.4	37.6	3.1	.....	NW	.....	.....	.....	.....	.....	.....	.....	0.008	0.2	.....	
Groningen	30.14	765.6	30.20	767.0	31.3	— 0.4	.....	E	.....	.....	2	.....	.....	.....	.....	0.260	6.6	.....	
Helder	30.20	767.1	30.20	767.1	32.4	0.2	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helievoetsluis	30.18	766.6	30.18	766.6	38.1	3.4	98	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.13	765.2	30.17	766.4	36.9	2.7	96	SW	.....	.....	1	.....	10	.....	.....	0.008	0.2	Misty	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.28	769.0	30.33	770.4	33.8	1.0	75	S	2.9	1.3	.....	.....	8	.....	.....	0	0	.....	
Brönö	30.27	768.8	30.31	769.8	33.1	0.6	89	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.25	768.4	30.41	772.4	28.8	— 1.8	88	NNE	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	
Tromsö	30.17	766.3	30.21	767.4	25.3	— 3.7	76	SW	20	9	.....	.....	10	.....	.....	0.039	1.0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.81	757.1	30.00	762.0	58.6	14.8	91	W	13.0	5.8	.....	.....	4	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.28	743.6	30.31	769.9	56.3	13.5	86	NNW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.21	767.3	30.30	769.5	63.7	17.6	64	SE	1.3	0 6	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.96	761.0	30.32	770.1	57.4	14.1	90	SW	3.8	1.7	.....	.....	10	.....	.....	0.051	1.3	.....	The Staff.
Ponta Delgada, (Azores)	30.00	762.0	30.07	763.8	63.3	17.4	68	W	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers of the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from —	Weather	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'r
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, (Gulf of Guinea)	.....	.....	29.94	760.4	84.7	29.3	.....	W	.....	.....	1	.....	2	.....	W	1	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	.....	.....	29.97	761.2	76.6	24.8	.....	ENE	.....	.....	4	.....	3	.....	.....	2	NE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, Saint Paul de Loando	.....	.....	29.77	756.2	85.1	29.5	.....	WNW	.....	.....	2	.....	8	.....	E	2	.....	D. clouds	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.00	762.1	66.2	19.0	.....	E	.....	.....	4	.....	6	.....	E	2	.....	D. clouds	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.68	753.8	30.12	765.1	26.6	— 3.0	94	SE	4	2	.....	.....	10n	.....	.....	.....	.....	Snowing	Astronomical Obs
Wilna	29.76	756.0	30.21	767.4	22.8	— 5.1	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	30.03	762.8	30.30	769.5	18.5	— 7.5	83	E	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow	Prof. Dr. Weihrauch.
St. Petersburg	30.30	769.5	30.31	769.9	24.6	— 4.1	98	ESE	9	4	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Kieff	29.41	747.1	30.10	764.5	19.9	— 6.7	97	ENE	4	2	.....	.....	10n;ks	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Nikolaiev	29.92	759.9	29.99	761.7	33.4	0.8	96	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.98	761.5	30.00	762.0	36.3	2.4	100	ENE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.91	759 7	30.54	775.6	0.0	—17.8	83	SW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.93	760.1	30.15	765.9	9.1	—12.7	76	E	22	10	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.45	773.4	30.47	773.9	11.8	—11.2	97	SE	2	1	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.60	726.3	30.04	763.1	45.3	7.4	59	NW	13	6	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.31	769.9	30.23	767.8	20.8	— 6.2	93	ENE	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Capt. Wisganow.
Krotkowo*	30.04	763.0	30.58	776.7	0.7	—17.4	86	N	7	3	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.31	769.8	30.61	777.6	— 0.9	—18.3	86	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.47	748.5	30.54	775.8	2.8	—16.2	75	NW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.87	758.8	30.13	765.2	24.1	— 4.4	81	NNE	16	7	.....	.....	10n	.....	.....	.....	.....	.....	
Tashkend	28.49	723.6	30.28	769.0	36.0	2.2	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.63	752.6	30.21	767.3	5.5	—14.7	87	SW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Yeniseisk	30.02	762.6	30.37	771.5	—38.6	—39.2	77	WNW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.28	769.1	30.42	772.7	21.7	— 5.7	42	SW	4	2	.....	.....	1c	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.56	750.7	29.64	752.9	5.5	—14.7	96	NW	18	8	.....	.....	10n	.....	.....	.....	.....	Snowing	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.95	760.6	30.05	763.3	56.3	13.5	58	SSE	1.0	0.47	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Directo
Bilbao, Met. Obs'y	30.15	765.8	30.21	767.3	55.8	13.2	90	NW	2.8	1.27	.....	.....	10	.....	.....	0.043	1.1	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.26	692.3	.....	.....	52.2	11.2	86	SW	8.8	3.92	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	29.02	711.6	.....	.....	52.7	11.5	89	SE	1.5	0.67	.....	.....	10	.....	.....	0.008	0.2	Covered	The Staff.
Murcia, Met. Obs'y	29.97	761.3	30.13	765.2	59.4	15.2	58	SW	3.7	1.64	.....	3	4	E	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.27	743.5	30.17	766.4	54.7	12.7	56	SW	15.0	6.7	.....	.....	10	.....	.....	0.077	2.0	Drizzling	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.12	765.1	30.19	766.8	68.6	20.3	89	ENE	1.6	0.7	.....	0	1s	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands,	29.80	757.0	29.85	758.3	81.0	27.2	80	ENE	1.8	0'8	.....	0	0	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.21	767 4	30.31	769.9	58.5	14.7	79	NW	6.1	5.0	.....	3	4	NW	N	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.07	763.8	30.16	766.1	74.1	23.4	90	SE	0	0	.....	2c	2	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.43	773.0	30.47	774.0	19.2	— 7.1	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.32	770.1	30.37	771.4	21.6	— 5.8	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	30.35	770.8	30.40	772.1	14.0	—10.8	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	30.17	766.3	30.35	770.8	25.9	— 3.4	91	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.11	764.7	30.17	766.2	29.5	— 1.4	92	E	.....	.....	4	.....	10	.....	.....	0.031	0.8	Snowing.....	
Sub-Series.																			
Upsala	30.28	769.0	30.35	770.9	25.2	— 3.8	95	N	5.8	2.6	.....	.....	10	.....	NE	0.055	0.14	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor F. Plantamour, Director of the Observatory at Geneva.

Geneva	28.67	728.2	30.16	766.0	34.7	1.5	91	ENE	.....	.....	1	.....	10	.....	.....	0.051	1.3	Snowing.....	The Observatory.
Zurich	28.46	722.8	30.17	766.3	33.1	0.6	98	NW	.....	.....	1	.....	10	.....	.....	0.126	3.2	Snow & fog..	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.6 mm.; Thermometer, 0 cent.; Relative Humidity, +12 per cent.

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

TURKISH SERIES.

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.5	42.6	5.9	62	NE	4	2.0	.....	.....	3	.....	N	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.98	761.5	48.4	9.1	.....	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.94	760.5	30.06	763.5	66.6	19.2	71	SSW	.....	.....	3	.....	8c;n	.....	SW	0.05	1.3	D, clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

CANADIAN SERIES.

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

Bathurst, N. B	30.14	765.5	30.21	767.3	— 0.5	—18.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.91	759.7	30.26	768.6	0	—17.8	.....	Calm	0	0	.....	10s	.....	NE	0.30	7.6	Cloudy.....	W. R. Bigg.	
*Chatham, N. B	30.16	766.1	30.23	767.8	— 20	—28.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	30.10	764.5	30.14	765.5	1	—17.2	100	W	12	5.4	.....	10s	.....	Calm	0	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.12	765.0	30.34	770.6	— 6.0	—21.1	100	SW	.....	.....	1	0	3s	.....	.....	0.20	5.1	Fair.....	H. A. Johnson.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Esquimault, B. C	29.64	752.8	29.68	753.9	36.1	2.3	100	N	.....	.....	.....	.....	10	.....	.....	0	0	Overcast.....	W. H. Bevis.
*Father Point, Quebec	30.22	767.6	30.24	768.1	— 6	—21.1	73	S	5	2.2	.....	5k	2s	SW	SW	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	30.26	768.6	30.33	770.4	—17.9	—27.7	100	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry, Manitoba	28.84	732.5	29.75	755.6	— 2	—18.9	97	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	29.06	738.1	30.25	768.3	20.3	— 6.5	.....	S	.....	.....	1	.....	10n	.....	.....	0	0	Overcast....	James Grant.
*Halifax, N. S	30.03	762.8	30.18	766.6	2	—16.7	88	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.90	759.4	30.31	769.9	13.7	—10.2	94	E	.....	.....	1	10cs	0	E	.....	0	0	Hazy.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.50	749.3	29.52	749.8	12	—11.1	100	W	.....	.....	4	0	2ks	.....	W	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.94	760.5	30.31	769.9	15	— 9.4	78	SE	12	5.4	.....	.....	10s	.....	Calm	0.37	9.4	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.89	759.2	29.93	760.2	12.8	—10.7	90	NW	12	5.4	.....	5k	0	N	.....	0.10	2.5	.....	C. H. Rigby.
Moose Factory, Ontario	29.68	753.9	29.72	754.9	20.9	— 6.2	88	S	.....	.....	3	.....	10n	.....	.....	0.05	1.3	Cloudy.....	J. R. Nason.
*Montreal, Quebec	30.13	765.3	30.36	771.1	— 2	—18.9	94	W	12	5.4	.....	0	2s	.....	.....	0.09	2.3	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.43	747.5	30.17	766.3	21	— 6.1	86	S	14	6.3	.....	.....	10n	.....	S	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.45	748.0	30.28	769.1	3.6	—15.8	89	NE	.....	.....	.....	.....	10n	.....	.....	.....	.....	Overcast.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.54	750.3	30.28	769.1	21	— 6.1	91	S	9	4.0	.....	.....	Haze	.....	.....	0.08	2.0	Hazy	H. Morgan.
Port Hastings, N. S	30.01	762.2	30.07	763.8	8.9	—12.8	.....	N	15	6.7	.....	.....	.....	.....	.....	0.30	7.6	Snowing.....	Peter Grant.
Port Stanley, Ontario	29.56	750 8	30.25	768.3	24	— 4.4	91	SW	.....	.....	.....	.....	10n	.....	SW	0.10	2.5	Cloudy.....	M. Payne.
*Quebec, Quebec	30.02	762.5	30.38	771.6	— 5	—20.6	81	W	.....	.....	3	2k	2s	.....	W	0	0	Fair.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.72	754.9	30.24	768.1	4	—15.6	90	SE	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.25	768.3	30.30	769.6	— 3	—19.4	49	N	.....	.....	1	0	0	.....	.....	Inap.	Inap	Clear.....	Dr. Gove.
St. John, N. B	30.12	765.0	30.30	769.6	— 4	—20.0	100	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.41	747.0	30.17	766.3	24	— 4.4	96	S	14	6.3	.....	.....	10ks	.....	.....	0.02	0.5	Cloudy.....	K. Stewart.
Stayner, Ontario	29.36	745 7	30.19	766 8	20	— 6.7	91	E	5	2.2	.....	.....	8n	.....	S	Inap	Inap.	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.86	733.0	30.23	767.8	19.1	— 7.2	92	SW	9	4.0	.....	.....	10s	.....	.....	0.30	7.6	Overcast.....	C. J. MacGregor, M. A
*Sydney, C. B	29.91	759.7	29.95	760.7	15	— 9.4	73	NW	12	5.4	.....	0	5ks	.....	NW	0	0	Fair.....	T. C. Hill.
*Toronto, Ontario	29.88	758.9	30.30	769.6	16	— 8.9	93	SW	8	3.6	.....	.....	10n	.....	W	0.02	0.5	Cloudy.....	Magnetic Observatory.
Windsor, N. S	30.12	765.0	30.28	767.8	— 2.0	—18.9	100	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	11.0	—11.7	80	W	.....	.....	.....	0	2ck	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUD. Amount. Up'er 0—10.	CLOUD. Amount. Low'r 0—10.	CLOUD. Direction. Upper. From—	CLOUD. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inch's.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim's.	WEATHER.	OBSERVER.
Albany, New York	30.18	766.6	30.44	773.2	— 2	—18.9	100	NE	4	1.8	.....	1c	Haze	W	.....	0.72	18.3	Clear	
Alpena, Michigan	29.40	746.7	30.09	764.3	22	— 5.6	86	S	16	7.2	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Atlanta, Georgia	29.06	738.1	30.24	768.1	44	6.7	52	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Atlantic City, New Jersey	30.37	771.4	30.38	771.6	21	— 6.1	71	N	9	4.0	.....	0	8s	.....	W	0.06	1.5	Cloudy	
Augusta, Georgia	30.12	765.0	30.31	769.9	40	4.4	86	Calm	0	0	.....	5cs	Sm'e	Calm	.....	0	0	Fair	
Baltimore, Maryland	30.38	771.6	30.44	773.2	23	— 5.0	60	N	5	2.2	.....	5c;k	2s	NW	Calm	0.15	3.8	Fair	
Barnegat, New Jersey	30.39	771.9	30.42	772.7	22	— 5.6	72	N	11	4.9	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	
Bismarck, Dakota	29.95	760.7	29.80	756.9	3	—16.1	100	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.50	723.9	29.80	756.9	57	13.9	100	SW	6	2.7	.....	.....	Fog	.....	SW	0	0	Foggy	
Boise City, Idaho	27.06	687.3	30.02	762.5	24	— 4.4	87	S	20	8.9	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Boston, Massachusetts	30.21	767.3	30.38	771.6	13.0	—10.6	53	W	8	3.6	.....	8c;cs	Haze	W	Calm	0.95	24.1	Fair	
Brackettville, Texas	28.81	731.8	29.83	757.7	55	12.8	93	NE	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Breckenridge, Minnesota	28.79	731.3	29.86	758.4	10	—12.2	90	W	6	2.7	.....	2cs	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.92	760.0	29.98	761 5	69	20.6	95	S	8	3.6	.....	.....	10ks	.....	S	0.03	0.8	Cloudy	
Buffalo, New York	29.55	750.6	30.32	770.1	14	—10.0	82	S	6	2.7	.....	5c	0	W	.....	0.30	7.6	Fair	
Burkes, Arizona	.....	.....	.....	.....	23	— 5.0	34	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.09	764.3	30.42	772.7	6	—14.4	76	S	12	5.4	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Cairo, Illinois	29.76	755.9	30.17	766.3	34	1.1	90	NE	1	0.4	.....	.....	10n	.....	NE	0.11	2.8	Sleeting	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	31	— 0.6	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	19	— 7.2	54	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.57	700.3	30.14	765.5	30	— 1.1	67	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.34	770.6	30.35	770.9	41	5.0	78	NE	18	8.0	.....	8cs	Haze	NW	.....	0	0	Cloudy	
Cape Henry, Virginia	30.36	771 1	30.38	771.6	31	— 0.6	79	NE	20	8.9	.....	0	8s	.....	W	0	0	Fair	
Cape Lookout, N. Carolina	30.32	770.1	30.34	770.6	39	3.9	91	NE	24	10.7	.....	8cs	0	NW	.....	0	0	Cloudy	
Cape May, New Jersey	30.36	771.1	30.40	772.1	19	— 7.2	69	N	12	5.4	.....	0	2s	.....	Calm	0.02	0.5	Clear	
Castroville, Texas	29.17	740.9	29.88	758.9	55	12.8	93	W	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Charleston, South Carolina	30.27	768.8	30.34	770.6	48	8.9	78	NE	9	4.0	.....	2c	0	Calm	.....	0	0	Fair	
Cheyenne, Wyoming	23.88	606.5	29 82	757.4	10	—12.2	79	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.34	745.2	30.07	763.8	21	— 6.1	86	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Cincinnati, Ohio	29.55	750 6	30.25	768.3	25	— 3.9	87	SE	1	0.4	.....	4c	Fog	NW	Calm	0	0	Fair	
Cleveland, Ohio	29.50	749.3	30.28	769.1	23	— 5.0	86	S	12	5.4	.....	.....	10s	.....	.....	0.19	4.8	Cloudy	
Coleman City, Texas	28.14	714.7	29.82	757.4	47	8.3	100	Calm	0	0	.....	.....	10ks	.....	S	0.14	3.6	Cloudy	
Columbus, Ohio	29.34	745.2	30.23	767.8	25	— 3.6	74	SE	4	1.8	.....	5ck	Fog	NW	Calm	0	0	Fair	
Corpus, Texas	28.04	712.2	29.73	755.1	46	7.8	92	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Corsicana, Texas	29.48	748.8	29.96	761.0	48	8.9	78	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.33	745.0	30.02	762.5	13	—10.6	62	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.18	639.6	.....	.....	9	—12.8	78	SW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Decatur, Texas	28.72	729.5	29.89	759.2	43	6.1	92	NW	3	1.3	.....	.....	10s	.....	NW	0	0	Threatening	
Denison, Texas	29.20	741.7	30.01	762.2	45	7.2	92	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.70	727.4	29.92	760.0	4	—15.6	48	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.02	737.1	29.97	761.2	11	—11.7	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.51	749.5	30.23	767.8	20	— 6.7	85	S	10	4.5	.....	10cs	0	Calm	.....	0.10	2.5	Cloudy	
Dodge City, Kansas	27.39	695.7	29.84	757.9	18	— 7.8	84	N	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.28	743.7	30.04	763.0	7	—13.6	77	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.14	740.1	29.86	758.4	16	— 8.8	83	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.16	740.7	29.90	759.4	58	14.4	100	Calm	.....	.....	0	.....	10n	.....	.....	0.01	0.3	Light rain	
Eastport, Maine	30.25	768.3	30.32	770.1	— 1	—18.3	68	NW	13	5.8	.....	5c	0	W	.....	0.01	0.3	Fair	
Edinburg, Texas	.....	.....	.....	.....	67	19.4	95	SW	.....	.....	1	.....	10s	.....	S	0	0	Threatening	
El Paso, Texas	.....	.....	.....	.....	48	8.9	48	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.51	749.5	30.29	769.4	26	— 3.3	88	S	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Escanaba, Michigan	29.27	743.4	29.97	761.2	14	—10.0	82	SW	16	7.2	.....	0	5s	.....	SW	0	0	Fair	
Florence, Arizona	28.65	727.7	30.25	768.3	31	— 0.6	79	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota Ter.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.43	645.9	29.50	749.3	20	— 6.7	55	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	52	11.1	43	SW	3	1.3	.....	10k	0	W	.....	0	0	Cloudy	
Fort Gibson, Indian Ter.	29.39	746.5	29.94	760.5	39	3.9	91	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Fort Griffin, Texas	28.65	727.7	29.94	760.5	43	6.1	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana Ter.	.....	.....	.....	.....	3	—16.1	.....	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.72	704.1	29.63	752.6	58	14.7	93	W	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.92	760.0	37	2.8	81	W	10	4.5	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.22	716.8	29.78	756.4	60	15.6	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.00	762.0	30.04	763.0	59	15.0	100	SE	6	2.7	.....	.....	Fog	.....	SE	0.01	0.3	Foggy	
Graham, Texas	28.87	733.3	29 95	760.7	41	5.0	91	Calm	0	0	.....	.....	5s	.....	Calm	0.09	2.3	Threatening	
Grand Haven, Michigan	29.43	747.5	30.12	765 0	26	— 3.3	75	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.31	744.5	30.14	765.5	25	— 3.9	75	SE	5	2.2	.....	5cs	0	Calm	.....	Inap.	Inap	Fair	
Indianola, Texas	29.99	761.7	30.01	762.2	62	16.7	100	S	11	4.9	.....	.....	10s	.....	S	0.02	0.5	Foggy	
Jacksboro, Texas	28.74	730 0	29.87	758.7	46	7.8	77	S	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.15	765.8	30.18	766.6	51	10.6	86	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.30	744.2	29.96	761.0	19	— 7.2	85	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Key West, Florida	30.18	766.6	30.21	767.3	68	20.0	84	NE	9	4.0	.....	1k	2s	NE	Calm	0.01	0.3	Fair	
Kittyhawk North Carolina	30.35	770.9	30.37	771.4	36	2.2	71	NE	28	12.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Knoxville, Tennessee	29.22	742.2	30.29	769.4	29	— 1.7	89	NE	3	1.3	.....	0	Sm'e	.....	.....	Inap.	Inap.	Clear	
La Crosse, Wisconsin	29.19	741.4	30.00	762.0	5	—15.0	88	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	50	— 1.1	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.51	749.5	29.85	758.2	62	16.7	94	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Cloudy	
Leavenworth, Kansas	29.05	737.9	29.95	760.7	18	— 7.8	84	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.85	758.2	30.21	767.3	40.0	4.4	65	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.60	751.8	30.19	766.8	31	— 0.6	69	SE	3	1.3	.....	5ck;cs	2s	E;Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.67	753.6	30.40	772.1	31	— 0.6	79	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	28.97	735.8	30.03	762.8	15	— 9.4	82	S	6	2.7	.....	.....	Fog	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.12	739.6	29.86	758 4	22	— 5.6	72	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.32	719.3	30.07	763.8	54	12.2	87	S	4	1.8	.....	.....	10n	.....	S	0.04	1.0	Light rain	
Memphis, Tennessee	29.74	755.4	30.06	763.5	43	6.1	83	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.36	744.2	30.06	763.5	30	— 1.1	89	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.13	765.3	30.18	766.6	57	13.9	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Montgomery, Alabama	29.97	761.2	30.20	767.1	54	12.2	93	E	5	2.2	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Morgantown, West Virginia	29.19	741.4	30.29	769.4	38	3.3	63	NE	1	0.4	.....	8cs	0	Calm	.....	0.03	0.8	Cloudy	
Mt. Washington, N. H.	23.62	599 9	29.98	761.5	0	—17.8	69	NW	39	17.5	.....	2s	0	Calm	.....	0.72	18.3	Clear	
Nashville, Tennessee	29.67	753.6	30.23	767.8	36	2.2	80	E	3	1.3	.....	.....	8s	.....	.....	0.06	1.5	Cloudy	
New Haven, Connecticut	30.29	769.4	30.42	772.7	18	— 7.8	84	N	7	3.1	.....	2c	0	Calm	.....	0.90	22.9	Clear	
New London, Connecticut	30.37	771.4	30.43	772.9	21	— 6.1	86	N	3	1.3	.....	6ck	0	W	.....	1.13	28.7	Fair	
New Orleans, Louisiana	30.06	763.5	30.12	765 0	59	15.0	94	E	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.34	770.6	30.40	772.1	22	— 5.6	86	NW	4	1.8	.....	.....	10ks	.....	Calm	0 20	7.4	Cloudy	
New York, New York	30.25	768 3	30.45	773.4	20	— 6.7	79	NW	3	1 3	.....	8c	Haze	NW	Calm	0.55	14 0	Fair	
Norfolk, Virginia	30.33	770.4	30.39	771.9	31	— 0.6	58	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Feet per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.06	687.3	29 85	758.2	9	—12.8	78	NW	16	7.2		0	0			0	0	Clear	
Olympia, Washington Ter.	29.64	752.8	29.68	753.9	37.3	2.9	90	S	6	2.7			10n		Calm	0.48	12.2	Light rain	
Omaha, Nebraska	28.77	730.7	29.94	760.5	17	— 8.3	83	W	5	2.2			10s		Calm	0	0	Cloudy	
Osvrego, New York	30.04	763.0	30 39	771.9	19	— 7.2	85	SE	6	2.7			10s			0.13	3.3	Cloudy	
Pembina, Dakota	28.87	733 3	29.79	756.7	— 2	—18.9	100	S	8	3.6		0	0			0	0	Clear	
Philadelphia, Pa	30.36	771.1	30.42	772.7	17	— 8.3	67	NE			2	2c;hz	0	W;Calm		0.03	0.8	Fair	
Phœnix, Arizona	29.02	737.1	30.95	786.1	32	0.0	69	Calm			0	0	0			0	0	Clear	
Pike's Peak, Colorado	17.28	439.0	29.49	749.0	—12.5	—24.7	23	NW	36	16.1		0	0			0	0	Clear	
Pioche, Nevada	24.01	09.8	29.78	756.4	9	—12.8	57	N	1	0.4		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.45	7 8.0	30.32	770 1	26	— 3.3	75	SE	3	1.3		5k	0	SW		0.07	1.8	Fair	
Port Huron, Michigan	29.50	7 9 3	30.21	767.3	23	— 5.0	86	S	14	6.3			10s		Calm	0.01	0.3	Cloudy	
Portland, Maine	30.30	769 6	30.36	771.1	6	—14.4	76	NW	1	0.4		0	Fog			0.44	11.2	Clear	
Portland, Oregon	29.77	756 1	29.88	758.9	42.0	5.6	87	SW	4	1.8		0	9n		SW	0.29	7.4	Light rain	
Prescott, Arizona	24.71	627.6	30.07	763.8	12	—11.1	80	Calm	0	0		0	0			0	0	Clear	
Pilot Point, Texas	29.14	740.1	30.02	762.5	22	— 5.6	72	N	4	1.8		0	0			0	0	Clear	
Punta Rassa, Florida	30.24	768.	30.26	768 6	57	13.9	81	NE	6	2.7		0	0			0	0	Clear	
Red Bluff, California	29.93	760.2	30.31	769.9	39	3.9	73	SW	2	0.9			10s		Calm	0	0	Cloudy	
Rio Grande City, Texas	29.79	756.7	30.01	762.2	63	17.2	89	Calm	0	0			10s		Calm	0	0	Cloudy	
Rochester, New York	29.67	753.6	30.34	770.6	14	—10.0	82	SW	4	1 8		5ck;hz	0	Calm		0.12	3.0	Fair	
Roseburg, Oregon	29.52	749.8	30.10	764.5	44.0	6.7	88	SW	5	2.2			10n		Calm	0.02	0.5	Heavy rain	
Sacramento, California	30.23	767.8	30.31	769.9	37.5	3.1	81	SE	6	2.7			10n		Calm	Inap.	Inap.	Light rain	
St. Louis, Missouri	29.46	748.3	30.06	763.5	28	— 2.2	88	SE	11	4.9		0	8ks		W	0	0	Fair	
St. Marks, Florida	30.23	767.8	30.25	768.3	56	13.3	94	Calm	0	0		0	9s		S	0	0	Cloudy	
St. Paul, Minnesota	29.01	736.8	29.91	759.7	8	—13.3	89	SE	4	1.8			10s		Calm	0	0	Cloudy	
Salt Lake City, Utah	25.70	652.8	30.03	762.8	11	—11.7	80	SE	4	1.8		10cs	0	Calm		0.19	4.8	Fair	
San Antonio, Texas	29.28	743.7	29.87	758.7	54	12.2	100	SE	1	0.4			Fog			0	0	Foggy	
San Diego, California	30.14	765.5	30.22	767.6	39.0	3.9	91	Calm	0	0		0	0			0	0	Clear	
Sandusky, Ohio	29.56	750.8	30.28	769.1	25	— 3.9	87	S	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.40	772.1	30.43	772.9	20	— 6.7	70	NE	4	1.8			8ks		NE	0.22	5.6	Cloudy	
San Francisco, California	30.23	767.8	30.30	769.6	43.5	6.4	92	SE	4	1.8		8s	0	W		0	0	Fair	
Santa Fé, New Mexico	23.15	588.0	29.69	754.1	16	— 8.9	66	N	7	3.1		0	0			0	0	Clear	
Savannah, Georgia	30.20	767.1	30.30	769.6	50	10.0	93	W	3	1.3		1k	Fog	W	Calm	0	0	Foggy	
Shreveport, Louisiana	29.78	756.4	30.00	762.0	55	12.8	87	Calm	0	0			10s		Calm	0	0	Cloudy	
Silver City, New Mexico	24.24	615.7	30.70	779.8	25	— 3.9	75	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.31	769.9	30.35	770.9	41	5.0	82	NE	7	3.1		8c	0	W		0	0	Fair	
Springfield, Massachusetts	30.29	769.4	30.44	773.2	3	—16.1	46	N	2	0.9		2c	0	NW		0.34	8.6	Fair	
Stockton, Texas	26.93	684 0	29.93	760.2	47	8.3	85	SW	4	1.8			10s		Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.32	770.1	30.38	771.6	15	— 9.4	65	NW	9	4.0		1c	0	W		1.12	28.4	Clear	
Toledo, Ohio	29.50	749.3	30.23	767.8	22	— 5.6	86	SE	3	1.3			10s		Calm	0.04	1.0	Cloudy	
Tucson, Arizona					20	— 7.7	34	NW	2	0.9		0	0			0	0	Clear	
Tybee Island, Georgia	30.27	768.8	30.30	769.6	49	9.4	93	NW	4	1.8		2c	2ks	W	W	0	0	Fair	
Umatilla, Oregon	29.44	747.8	29.94	760.5	28.0	— 2.2	88	E	3	1.3			10s		E	0	0	Cloudy	
Unalashka, Aleutian Islands					27	— 2.8	88	NW			4		10s		NW	0	0	Cloudy	
Uvalde, Texas	29.09	738.9	29.91	759.7	56	13.3	94	E	1	0.4			Fog		Calm	0	0	Dense fog	
Vicksburg, Mississippi	29.85	758 2	30.11	764.8	57	13.9	81	S	10	4.5			10s		Calm	0	0	Cloudy	
Virginia City, Montana	24.00	609.6	29.48	748.8	8	—13.3	78	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.96	761.0	30.36	771.1	29	— 1.7	89	SE	3	1.3		0	0			0	0	Clear	
Washington, D. C.	30.30	769.6	30.43	772.9	22	— 5.6	86	NE	6	2.7		1c	Fog	W		0.01	0.3	Clear	
Wickenburg, Arizona					29	— 1.7	67	N			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.26	768.6	30.34	770.6	40	4.4	63	NE	4	1.8		5c	Sm'e	W		0	0	Fair	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	22	— 5.6	72	W	24	10.7			10s		Calm	0	0	Cloudy	
Wood's Holl, Mass	30.32	770.1	30.36	771.1	18	— 7.8	84	N	10	4.5		Haze	2s	Calm	Calm	0.90	22.9	Clear	
Yankton, Dakota	28.65	727.7	30.02	762.5	16	— 8.9	74	NW	6	2.7			10n		Calm	Inap.	Inap.	Lightsnow	
Yuma, Arizona	30.04	763.0	30.22	767.6	37	2.8	45	Calm	0	0		0	0			0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.37	720.6	29.80	756.9	40	4.4	91												J. B. Gordon.
Havana, Cuba, W. I	30.15	765.8	30.17	766.3	74	23.3	81	Calm	0	0		0	0			0	0	Foggy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.23	767.8	30.24	768.1	74	23.3	85	Calm	0	0		2c	2s	S	E	0	0		James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	30.03	762.8	30.11	764.8	77	25.0		NE	7	3.1						0	0	Fair	F. M Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	79	26.1	91	NE			2		10n	NE		1.400	35.56	Rainy	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.80	756.9	29.86	758.4	—15.6	—26.4	71	N	7	3.1			10n		N	0.014	0.36	Snowing	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,809 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,479.5 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 335.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 341.3 (?) m.; La Mesilla, (?); Mason, 1,860 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Poise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.21	767.3	43.5	6.4	43.5	6.4	100	ESE	3	1.3	.....	.....	10	.....	SE	0	0	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.28	769.1	60	15.6	60	15.6	94	NE	3	1.3	.....	.....	Fog	.....	NE	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.35	770.9	53	11.7	7	—13.9	77	NW?	02	02	.....	.....	Haze	.....	.....	.....	.....	.....	.....	.....	
Naval Hospital, Yokohama, Japan *	29.93‡	760.2‡	.....	.....	35.6	2.1	63	N	.....	.....	4	.....	4k;s	.....	W	0	0	.....	.....	Fair.....	
Alliance. Smyrna, Turkey	30.04‡	763.0‡	.....	.....	53	11 7	67	NW	.....	.....	0–1	.....	5	.....	Calm	.....	.....	.....	.....	Threatening	
Ashuelot. N. 13° 43', E. 100° 29'	29.91	759.7	82	27.8	80	26.7	74	SSW	.....	.....	2	.....	2	.....	S	.....	.....	Smooth	.....	Fair	
Canonicus, New Orleans, La.	30.10	764.5	44	6.7	53	11.7	100	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Foggy	
Colorado. New York, N. Y.	30.36	771.1	18	— 7.8	18	— 7.8	100	NE	1	0.4	.....	.....	5	.....	W	0.65	16.5	.....	.....	Hazy	
Constitution, Bollard Point, S. Coast of Eng.	30.13‡	765.3‡	.....	.....	39	3.9	100	ENE	9	4.0	.....	.....	10	.....	Calm	.....	.....	.....	.....	Overcast	
Despatch. Constantinople, Turkey	30.11‡	764.8‡	.....	.....	41	5.0	83	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Essex, S. 38° 37', W. 55° 48'	29.66	753.4	68	20.0	67	19.4	79	WNW	.....	.....	5	.....	2	.....	NW	.....	.....	Mod'ate	NW	Fair	
Franklin, Norfolk, Va.	30.50	774.7	66	18.9	33	0 6	70	N	7.2	3.2	.....	.....	2	.....	N	0	0	.....	.....	Clear	
Gettysburg, Genoa, Italy	29.85‡	758.2‡	.....	.....	48	8.9	63	N	.....	.....	3–5	.....	5	.....	N	0	0	.....	.....	D. clouds	
Hartford, Montevideo, Uruguay	29.90	759.4	74	23.3	76	24.4	51	WNW	18	8.0	.....	.....	0	.....	.....	0	0	Mod'ate	WNW	Clear.	
Lackawana, Panama	29.71‡	754.6‡	.....	.....	78	25.6	95	NW	.....	.....	1	.....	2	.....	.....	Blank	Blank	.....	.....	Clear	
Michigan, Erie, Pa.	30.09†	764.3†	.....	.....	15	— 9.4	82	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Monocacy. N. 34° 35'. E. 138° 30' *	30.00‡	762.0‡	.....	.....	44	6.7	100	W	.....	.....	4–6	.....	0	.....	.....	.....	.....	Mod'ate	W	Clear	
Monongehela, Yokohama, Japan	29.94‡	760.5‡	.....	.....	33	0.6	89	N	.....	.....	4	.....	8	.....	N	0	0	.....	.....	D. clouds	
New Hampshire. Port Royal, S. C.	30 40†	772.1†	.....	.....	52	11.1	79	NNE	9	4.0	.....	.....	2	.....	NNE	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.04†	763.9†	.....	.....	70	21.1	85	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.41	772.4	33	0.6	22	— 5.6	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	24	— 4.4	100	SE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Panama	29.90‡	759.4‡	.....	.....	78	25.6	100	NW	6	2.7	.....	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Powhatan, Norfolk, Va.	30.34	770.6	34	1.1	34	1.1	79	SSW	9.0	4.0	.....	.....	8	.....	wsw	0	0	.....	.....	Fair	
Quinnebaug, N. 35° 32', W. 68° 40'	29.84‡	757.9‡	.....	.....	60	15.6	71	NW	.....	.....	7	.....	8	.....	N	.....	.....	Rough	N;W	Fair	
Ranger. Yokohama, Japan	29.94‡	760 5†	.....	.....	41	5.0	57	NNW	.....	.....	4–5	.....	5	.....	Calm	.....	.....	Smooth	.....	D. clouds	
Richmond, N. 34° 35', W. 55° 07'	29.75‡	755.6‡	.....	.....	62	16.7	77	WNW	.....	.....	6–7	.....	10	.....	.....	.....	.....	Heavy	W	Overcast	
Rio Bravo, Brownsville, Texas	29.96	761.0	70	21.1	69	20.6	100	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Santee. Annapolis, Md.	30.39‡	771.9‡	.....	.....	22	— 5.6	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....	Clear	
St. Louis, League Island, Pa	30.13	769.1	55	12.8	15	— 9.4	.....	Calm	0	0	.....	.....	2	.....	NW	0	0	.....	.....	Fair	
Supply, N. 46° 04', W. 11° 26'	29.97‡	761.2‡	.....	.....	56	13.3	87	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Mod'ate	SW	Misty	
Trenton Villafranca, France *	29.92‡	760.0‡	.....	.....	60	15.6	71	SW	.....	.....	1	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Tuscarora. Panama	29.92‡	760 0‡	.....	.....	77	25.0	91	WNW	.....	.....	1	.....	2	.....	NE	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.36‡	771.6‡	.....	.....	12	—11.1	80	W	7	3.1	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Wyoming. Naples, Italy	30.08	764.0	66	18.9	49	9.4	85	NNE	.....	.....	1–2	.....	8	.....	NE	.....	.....	Smooth	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—12.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			
S. S. Grenada, N. 13° 14', W. 89° 36'		30.15†	765.8†	83	28.3	??	NE			3		0		0	0	Smooth		Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		30.16	763 0				ENE			2		0						Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer,																			J. A. Thompson, 2d Offr
S. S. Gaelic, N. 44° 46', E. 169° 14'		30.12†	765.0†	39	3.9	??	S			6		k		SE	Blank	High	S	Squally	Capt. W. H. Kelley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 09' W. 16° 34'		29.45	748.0	59.0	15.0		SSW			4		5		SW		6	s;sw	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware River		30.35*	770.9*	22	— 5.6	100	WNW			7		7		WNW	0			Cloudy	Captain Sargent.
S. S. Ohio, N. 51° 04', W. 16° 16'		29.30†	744.2†	52	11.1	??	SW			6		2?		SW	Blank	Heavy	SW;S	Cloudy†	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

***ALLAN LINE MARINE SERIES.**

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Orient, Long Island		30.33	770.4	29	—1.7	89	NNW	2				10k		N	0.40 in. or 10.2 mm.			Snowing	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

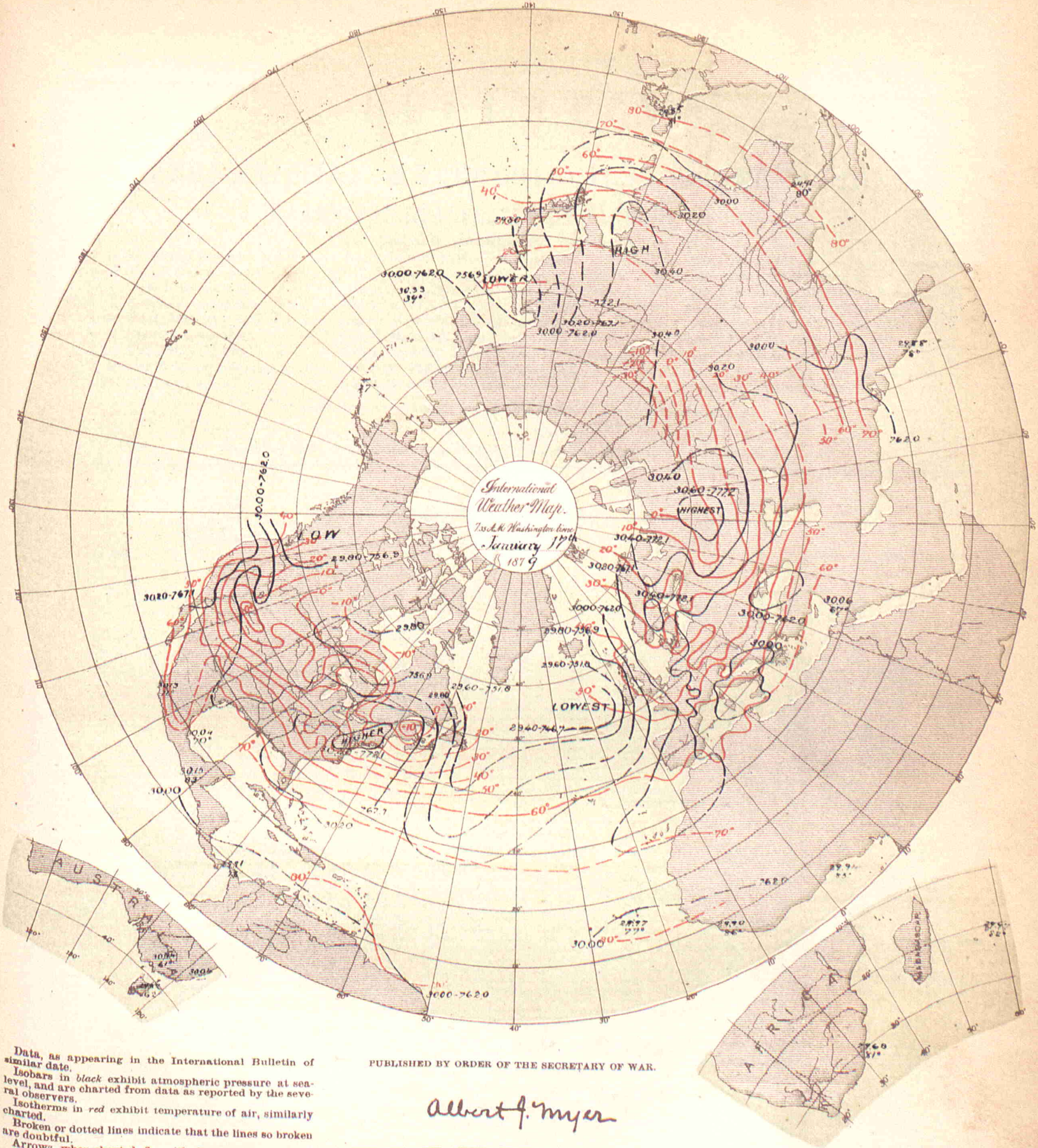
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 18, 1879.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.26	768.7	61.5	16.4	80	NE	.....	.....	1	.....	2	.....	.....	0	0	Very fair	
Nemours	.....	.....	30.21	767.3	63.7	17.6	78	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	30.10	764.6	59.4	15.2	80	W	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Touriliere.
La Calle	.....	.....	30.08	763.9	57.6	14.2	72	NW	.....	.....	6	.....	8	.....	.....	0.193	4.9	Very cloudy	Foufrede.
Tunis	.....	.....	30.01	762.3	56.5	13.6	64	NW	.....	.....	8	.....	8	.....	.....	0.020	0.5	Very cloudy	Jacques.
Sfax	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.13	765.4	59.4	15.2	41	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.08	763.9	49.1	9.5	46	NNE	.....	.....	7	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	30.08	764.0	53.1	11.7	90	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.10	764.5	60.4	15.8	45	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.11	764.7	64.9	18.3	39	NNW	.....	.....	5	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.62	752.4	30.20	767.1	34.3	1.3	76	SW	.....	.....	2	.....	10	.....	.....	0.051	1.3	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.48	748.8	30.30	769.5	28.8	— 1.8	96	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.26	743.2	30.19	766.9	28.4	— 2.0	80	N	.....	.....	2	.....	10	.....	.....	0.142	3.60	.....	Julius Mikolik.
Gratz	28.90	734.1	30.22	767.5	33.6	0.9	70	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Andreas Rospini
Hermannstadt	28.66	728.0	30.19	766 8	23.4	— 4.8	90	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmûnster	28.77	730.7	30.19	766.7	35.0	— 1.1	96	E	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.18	741.1	30.24	768.2	21.7	— 5.7	98	SW	.....	.....	1	.....	10	.....	.....	0.134	3.4	.....	Dr. T. Stanecki.
Pola	29.99	761.8	30.11	764.7	43.2	6.2	52	ENE	.....	.....	4	.....	1	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.73	755.2	30.23	767.8	29.1	— 1.6	96	NE	.....	.....	2	.....	10	.....	.....	0.091	2.3	.....	Julius Csics, S. J.
Szegedin	29.88	758.9	30.17	766.4	30.6	— 0.8	.....	Calm	.....	.....	0	.....	10	.....	.....	0.079	2.00	.....	Karl Stancel.
Trieste	30.05	764.2	30.15	765.8	40.6	4.8	49	ENE	.....	.....	3	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.48	748.7	30.23	767.9	33.8	1.0	83	NNW	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmûnster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.00	762.0	30.10	764.5	38.6	3.7	.....	SSE	34	15.2	.....	.....	10	.....	.....	0.050	1.27	Squally	W. Boswell.
Ardrossan	29.95	760.7	29.97	761.2	35	1.7	.....	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	George Carrick.
Armagh, Observatory	.....	.....	29.96	761.0	42.2	5.7	.....	SW	4	1.8	.....	.....	4	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.95	760.7	33.5	0.8	.....	E	18	8.0	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton	.....	.....	29.98	761.5	33.0	0.6	.....	SE	12	5.4	.....	.....	10	.....	.....	.....	.....	Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.61	752.1	30.01	762.2	33.9	1.1	.....	NE	.....	.....	2	.....	10	.....	.....	0.31	7.9	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	78.0	25.6	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.01	762.2	34.2	1.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	H. Todd. [C.
Cardington	.....	.....	30.09	764.3	33.0	0 6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	John McLaren.
Chatham, School M. E.	29.86	758.4	30.00	762.0	33.2	0.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Corpl. Davis.
Dartmoor	28.30	718.8	29.82	757.4	35.0	1.7	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	29.92	760.0	29.96	761.0	42	5.6	.....	ESE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.96	761.0	29.99	761.7	40	4.4	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	29.81	757.2	30.04	763.0	48.5	9.2	.....	WNW	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.33	694.2	29.65	753.1	68.0	20.0	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.71	754.6	29.94	760.5	85	29.4	.....	Calm	.....	.....	1?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.00	762.0	48	8.9	.....	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.12	765.0	30.18	766.6	61.1	16.2	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.79	756.7	29.99	761.7	34.0	1.1	.....	NNE	.....	.....	4	.....	.....	.....	.....	.....	.....	Snowing	D. G. Maclean.
Great Yarmouth	30.06	763.5	30.07	763.8	36	2.2	.....	SE	.....	.....	6	.....	7	.....	.....	.....	.....	Overcast	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.98	761.5	33.3	0.7	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	The Staff, for G. B. Airy
Guernsey	29.79	756.7	30.01	762.2	48.5	9.2	.....	WNW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	29.96	761.0	30.08	764.0	49	9.4	.....	NW	.....	.....	2	.....	2c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.91	759.7	29.96	761.0	44	6.7	.....	WNW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.76	755.9	30.05	763.3	49.0	9.4	.....	WNW	.....	.....	4	.....	0	.....	.....	.....	.....	Misty	J. Fisher.
Kew, Observatory	29.94	760.5	29.98	761.5	33.6	0.9	.....	ESE	8	3.6	.....	.....	10	.....	.....	.....	.....	Snowing	The Staff.
Leicester, Museum	29.72	754.9	29.99	761.7	33.3	0.7	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.73	755.1	29.80	756.9	56	13.3	.....	NW	.....	.....	1	.....	3k	.....	.....	Blank	Blank	Blue sky	Sergt. Beckett, A. H. C.
Naira	29.89	759.2	29.99	761.7	39	3.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.15	765.8	73.0	22.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.85	758.2	30.05	763.3	33.5	0.8	.....	SE	.....	.....	1	.....	10n	.....	ESE	0.591	15.02	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.43	747.5	29.98	761.5	32.8	0.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Snowing	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.25	768.3	33	0.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Snow & rain	H. E. Bellamy.
Plymouth	29.94	760.5	30.02	762.5	47.1	8.4	.....	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	John Merrifield.
Roche's Point	29.96	761.0	30.01	762.2	46	7.8	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Clear	W. Kennedy.
Saint Ann's Head	29.81	757.2	29.98	761.5	45	7.2	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.07	763.8	37.2	2.9	.....	SSE	40	17.9	.....	.....	10	.....	.....	.....	.....	Raining	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.12	765.0	41.4	5.2	.....	SSE	.....	.....	2	.....	9	.....	.....	Blank	Blank	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.77	756.1	30.06	763.5	34.5	1 4	.....	SE	.....	.....	1	.....	10	.....	.....	0.30	7.6	Rain & snow	W. F. Cooper.
Silloth Rectory	30.00	762.0	30.03	762.8	36.0	2.2	95	Calm	.....	.....	0	.....	10	.....	.....	0.080	2.03	Raining	F. H. Redford.
Stonyhurst Observatory	29.58	751.3	29.99	761.7	34.0	1.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Rev. S. J. Perry.
Strathfield Turgiss	29.74	755.4	29.97	761.2	35.4	1.9	.....	E	.....	.....	0–1	.....	10	.....	.....	.....	.....	Rain & fog	Rev. C. H. Griffith, F.M.S
Thurso	29.94	760.5	30.01	762.2	37	2.8	.....	SE	.....	.....	6	.....	.....	.....	.....	.....	.....	Raining	John Trotter.
Truro Royal Institution	.....	.....	30.04	763 0	52	11.1	.....	NW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.96	761.0	29.99	761.7	49.4	9.7	.....	WSW	11	4.9	.....	.....	6	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	30.12	765.0	56	13.3	88	NW	.....	.....	5	.....	0	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.04	763.0	35.2	1.8	.....	S	.....	.....	3	.....	10n	.....	.....	0.09	2.3	Overcast	Andrew Gibb.
Mauritius, Observatory	29.76	755.9	29.94	760.5	83.0	28.3	66	E	14.0	6.3	.....	0	5	.....	E	0.02	0.5	Fine	C. Meldrum.
Melbourne, Observatory	30.08	764.0	30.17	766.3	61.2	16.2	52	SE	11	4.9	.....	.....	5	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.88	758 9	43	6.1	.....	SSE	.....	.....	7	.....	10	.....	.....	0.4	10.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.21	767.3	39	3.9	.....	S	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	60.8	16.0	81	SE	.....	.....	1	.....	.....	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.30	769.6	30.35	770.8	30.4	— 0.9	82	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Fanöe	30.32	770.0	30.34	770.5	28.9	— 1.7	90	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	28.92	734.5	28.96	735.6	26.8	— 2.9	91	N	.....	.....	3	.....	10	.....	.....	.....	.....	.....	
Stykkisho'm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.84	757.8	29.87	758.7	41.4	5.2	95	S	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	
Vestervig	30.24	768.1	30.41	772.4	28.0	— 2.2	92	E	.....	.....	2	.....	6	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

FRENCH SERIES.

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

Alençon, Normal School	29.50	749.3	30.05	763.3	40.3	4.6	90	W	.....	.....	1	.....	8	W	NW	0.059	1.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.92	760.0	30.04	763.0	34.5	1.4	81	E	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.07	763.7	30.16	765.7	41.0	5	81	NNE	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	M. Giraud, Director.
Bar-sur-Seine	29.53	750.0	30.12	765.1	34.9	1.6	80	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.74	755.5	30.04	763.0	33.8	1.0	94	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie, Dir.
Besançon, Normal School	29.23	742.4	30.17	766.2	34.3	1.3	85	E	.....	.....	2	.....	10	.....	SW	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.26	743.2	30.17	766.2	35.1	1.7	82	SW	.....	.....	1	.....	10n	S	W	0.016	0.4	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.81	757.1	30.05	763.3	54.7	12.6	76	WNW	.....	.....	2	.....	1	.....	WNW	0.404	10.25	.....	M. de Rermaur, Director.
Carcassonne, Normal School	29.69	754.2	30.11	764.8	52.9	11.6	83	SW	.....	.....	1	.....	5	NW	NW	0	0	Cloudy	September, Director.
Caen, Normal School	29.88	759.0	29.96	760.9	47.8	8.8	73	E	.....	.....	3	.....	5	.....	E	0.35	9.	Cloudy	M. Lair, Director.
Chartres, Normal School	29.43	747 5	30.03	762.7	32.2	0.1	100	SSE	.....	.....	1	.....	2	.....	W	0.59	15.	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.78	756.4	30.11	764.9	33.8	1.0	100	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.71	729.2	30.12	765 0	37.4	3.0	89	W	.....	.....	1	.....	10	.....	W	0	0	Covered	Alluard, Director.
Commercy, Normal School	29.28	743.8	30.19	766.9	33.3	0.7	92	SE	.....	.....	1	.....	10n	.....	SE	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.98	736.1	30.12	765.1	43.5	6.4	65	N	.....	.....	1	.....	8	.....	NW	.....	.....	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.38	746.3	30.19	766.7	36.7	2.6	86	ENE	.....	.....	1	.....	10n	.....	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.88	759.0	30.10	764 6	52.9	11.6	78	NNW	.....	.....	1	.....	5	.....	NNW	0.205	5.2	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.73	755.2	30.05	763.2	44.2	6.8	79	W	.....	.....	1	.....	5	.....	W	0.020	0.5	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.4	30.15	765.8	35.8	2.1	82	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	30.02	762.6	30.12	765.1	52.2	11.2	71	NW	.....	.....	2	.....	.....	.....	NW	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.02	737.2	30.11	764.7	35.2	1.8	87	NE	.....	.....	3	.....	n	.....	SW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.89	759.3	30.11	764.9	44.6	7	66	NE	.....	.....	1	.....	10	.....	N	0.04	1.	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.10	637.5	.....	.....	32.0	0.0	100	SW	.....	.....	8	.....	.....	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.09	764.2	30.12	765.0	53.2	11.8	100	W	.....	.....	1	.....	5	W	W	0.16	4.	⅜ covered	Lt. Decante, Director.
Ronen, Normal School	29.90	759.5	29.99	761.7	34.9	1.6	89	SSE	.....	.....	1	.....	10	.....	.....	0.142	3.6	Covered	Frere Lucard, Director.
Saint-Malo (Port) Obs'y	30.02	762.4	30.05	763.2	50.0	10.0	80	NW	.....	.....	2	.....	0	.....	.....	0.260	6.60	Clear	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.87	758.8	30.04	763.0	33.1	0.6	96	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	E. Reaon, Director.
Tarbes, Normal School	29.00	736.6	30.09	764.2	53.6	12	54	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.31	744.5	30.04	763.1	39.0	3 9	93	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.97	761.3	30.00	762.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.	.....	L'Abbé Marchés.
Lyons, Observatory	.....	.....	30.14	765.5	36.7	2.6	71	SSE	.....	.....	1	.....	10	.....	.....	0	0	Coverad	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.79	629.6	30.10	764.6	38.8	3.8	52	SW	9.4	4.2	.....	.....	2	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	30.11	764.7	49.8	9.9	59	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.76	755.8	.....	.....	32.5	0.3	100	SE	.....	.....	3	.....	10	.....	.....	0.150	3.8	Snowing	Marié Davy, Director
Perpignan	30.04	762.9	30.14	765.6	52.9	11.6	81	S	9.4	4.2	.....	.....	6	.....	NW	Inap.	Inap.	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Brylac.
Pic du Midi (Plantade) H. P.	22.57	573.3	.....	.....	31.6	— 0.2	.....	NW	.....	.....	2	.....	10	.....	.....	0.114	2.9	Snowy	Capt. de Nansouty.
Toulouse, Observatory	29.44	747.8	30.17	766.2	51.4	10.8	93	SW	.....	.....	1	.....	8	.....	.....	0.118	3.0	.....	M. Mercadier Julier.
Tours	29.79	756.6	29.98	761.6	46.0	7.8	92	NNE	.....	.....	3	.....	8	.....	NNW	0.252	6.4	.....	Cousin-Marquet.
Versailles Observatory	.....	.....	30.01	762.3	34.2	1.2	.....	S	.....	.....	1	.....	10	.....	.....	0.309	7.86	Covered	Dr. Armieny, Director
Zi-Ka-Wei, (near Shanghai)	30.12	765.1	30.15	765.7	42.1	5.6	97	NE	6.9	3.1	.....	.....	10n	.....	.....	0 031	0.8	Raining	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.34	745.2	30.19	766.8	27.7	— 2.4	92	NW			4		10	E		0	0		Prof. Dr. Hoh.
Berlin	30.12	765.0	30.30	769.6	32.2	0.1	83	NE			1		10			0.020	0.5	Snowing	Prof. Arndt.
Breslau	29.78	756.5	30.32	770.1	25.5	— 3.6	86	NW			0		2			0.004	0.11		Royal University Obs'y
Carlsruhe	29.74	755.4	30.19	766.9	33.8	1.0	85	NE			1		0			0	0		Albert Senz.
Cassel	29.61	752.0	30.22	767.5	31.6	— 0.2	77	NE			1		10	NW		0.028	0.7	Snowing	Dr. H. Möhl.
Crefeld	30.00	762.0	30.16	766.1	31.8	— 0.1	87	SE			2		9			0	0	Light fog	Director Lose.
Emden					31.3	— 0.4	86	E			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.81	757.2	30.20	767.0	34.3	1.3		E			2		4			0	0		Physical Society.
Friedrichshafen	28.30	718.7	30.15	765.8	33.3	0.7	74	SSW			3		0			0.00	0.01		M. Wilhelm.
Hamburg	30.23	767.7	30.30	769.5	30.6	— 0.8	92	NNE			2		10			0	0		Captain F. Hegemann
Kiel	30.29	769.3	30.30	769.7	32.0	0.0	87	NE			1		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.29	769.4	30.38	771.6	23.9	— 4.5	94	E			1		10			0	0		Prof. E Luther.
Köslin			30.30	769.5	28.8	— 1.8		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.85	758.3	30.30	769.7	29.8	— 1.2	84	E			1		10			0	0		Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.34	770.6	30.39	771.8	23.2	— 4.9	76	NE			1		10k	W					Skalweit.
Neufahrwasser	30.35	770.9	30.37	771.3	30.0	— 1.1	88	Calm			0		10			0	0		A. Lothes.
Posen	30.07	763.6	30.37	771.4	27.5	— 2.5	95	E			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.60	751.9	30.18	766.6	32.4	0.2	96	NNE			1		10			0	0		Imp. University Observatory.
Stuttgart	29.15	740.5	30.15	765.7	29.3	— 1.5	90	NE			1		10			0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.63	727.3	30.22	767.5	31.5	— 0.3	77	SW	2.2	1			10		E	0	0		Dr. Van Bebber.
Wustrow, Naval School	30.30	769.6	30.32	770.2	29.3	— 1.5	100	E			1		10s			0.016	0.4		E. Schütz, Dir.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.56	750.7	29.96	761.0	45.0	7.2		NE			2.5							Raining	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.4	29.95	760.7	72.1	22.3	44	W					2		W	0	0	D. clouds	
Deesa	29.44	747.6	29.92	759.9	76.4	24.7	27	WNW					0			0	0	Blue sky	
Bombay	29.84	758.0	29.88	759.0	78.6	25.9	78	NW	13.0	5.8			0			0	0	Blue sky	
Poonah	27.88	708.2	29.89	759.1	78.0	25.6		ENE					0			0	0	Blue sky	
Lahore	29.20	741.6	29.97	761.3	60.6	15.9	40	Calm	1.6	0.7			8			0	0	Blue sky	
Belgaum	27.34	694.5	29.87	758.8	77.7	25.4	36	Calm	0	0			1			0	0	Cloudy	
Roorkee	29.00	736.5	29.93	760.2	61.8	16.6	38	Calm	3.0	1.3			3			0	0	D. clouds	
Agra	29.40	746.7	29.99	761.7	62.3	16.8	49	W					0			0	0	D. clouds	
Nagpur	28.88	733.5	29.94	760.4	74.0	23.7	25	Calm	2.2	1.0			0			0	0		
Lucknow	29.55	750.6	29.94	760.4	65.9	18.8	38	NW	4.4	2.0			0			0	0	Blue sky	
Allahabad	29.75	755.6	30.07	763.8	62.3	16.8	45	NW	3.7	1.6			0			0	0	Blue sky	
Patna	29.77	756.2	29.96	761.0	67.8	19.9	33	W	2.6	1.2			0			0	0	Blue sky	
Hazaribagh	27.88	708.1	29.96	761.0	62.0	16.7	28	NW	7.8	3.5			0			0	0	Blue sky	
Cuttack	29.84	758.0	29.93	760.1	71.6	21.7	52	ENE	2.8	1.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.90	759.5	29.92	760.0	65.8	18.8	61	NNW	3.0	1.3			0			0	0	Blue sky	
Goalpara					69.7	20.9	65	Calm	2.9	1.3			0			0	0	Blue sky	
Chittagong	29.80	756.9	29.90	759.3	71.6	22.0	62	Calm	4.8	2.2			0			0	0		
Sibsagar	29.59	751.6	29.94	760.5	62.9	17.2	86	Calm	0.5	0.2			7	SSW	SSW	0	0	D. clouds	
Jubbulpore	28.57	725.8	29.98	761.5	66.7	19.3	35	Calm	2.1	0.9			0			0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,852.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.74	755.4	30.17	766.3	41.9	5.5	37	SE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.06	763.6	30.18	766.5	41.4	5.2	45	NNE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.63	752.6	30.18	766.5	37.0	2.8	67	E	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.23	742.5	30.19	766.7	35.6	2.0	75	NNE	1.8	0.8	.....	.....	8	WSW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.16	715.2	30.15	765.7	35.4	1.9	62	W	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.90	759.4	30.10	764.4	48.2	9.0	48	N	3.8	1.7	.....	.....	4	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.84	757.8	30.10	764.6	46.4	8.0	50	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.99	761.7	30.08	763.9	50.2	10.1	42	ENE	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.06	763.6	30.11	764.9	40.6	4.8	77	N	17.4	7.8	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.80	756.9	29.98	761.5	52.2	11.2	53	N	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.68	753.9	29.94	760.5	48.6	9.2	49	NE	12.5	5.6	.....	.....	7	NE	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.78	756.5	29.98	761.5	54.1	12.3	62	NW	.....	.....	4	.....	3	N	.....	0.067	1.7	.....	Prof. A. Pacinotti.
Cosenza	29.68	737.3	29.93	760.3	48.2	9.0	74	NW	0.7	0.3	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.61	752.2	29.87	758.8	52.9	11.6	76	NE	5.6	2.5	.....	.....	9	.....	.....	0.087	2.2	.....	Prof. G. Cacciatore.
Syracuse	29.75	755.7	29.82	757.6	54.1	12.3	83	SW	13.7	6.1	.....	.....	10	NNE	.....	0.252	6.4	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.43	747.5	29.98	761.6	48.7	9.3	57	ENE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.35	770.9	30.37	771.4	33.0	0.6	75	N	1.7	0.8	.....	.....	0	.....	.....	0.090	2.29	Clear	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.00	762.0	30.20	767.1	40.4	4.7	74	N	1.9	0.8	.....	.....	10s	.....	.....	0.200	5.08	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.15	765.8	30.22	767.6	34.0	1.1	50	N	9.7	4.3	.....	0	0	.....	.....	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.8	30.24	768.1	48.2	9.0	59	W	.....	.....	1	3cs	.....	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.48	621.9	30.15	765.8	54.0	12.2	79	SW	.....	.....	1	4c	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.8	30.25	768.3	46.4	8.0	77	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	55.0	12.8	50	Calm	.....	.....	0	3cs	0	SW	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.07	763.8	30.08	764.1	69.8	21.0	87	NW	.....	.....	1	0	0	.....	.....	0	0	Hazy	M. M. Cházaro.
San Luis Potosi	24.30	617.2	30.27	768.8	48.0	8.9	65	SE	.....	.....	1	c	0	N	.....	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz	29.98	761.5	30.01	762.2	73.4	23.0	91	NW	.....	.....	0	.....	9sk	.....	SW	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.56	572.9	.....	.....	53.6	12	61	SW	.....	.....	1	7	0	SW	.....	0	0	Misty	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.43	595.0	30.18	766.5	42.6	6.7	97	NNW	1.3	0.6	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.09	764.2	70.9	21.6	61	NE	.....	.....	2	0	2	.....	SW	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.88	759.0	30.01	762.3	69	20.6	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,589.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	30.10	764.6	30.10	764.6	33.8	1.0	.....	ESE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.21	767.2	30.26	768.6	32.2	0.1	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.16	766.0	30.16	766.0	31.5	— 0.3	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helievoetsluis	30.10	764.5	30.10	764.5	32.2	0.1	93	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.11	764.8	30.16	766.0	32.9	0.5	83	E	.....	.....	4	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.34	770.7	30.40	772.1	30.9	— 0.6	70	SSE	13.4	6.0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.35	770.8	30.39	771.8	34.5	— 1.4	78	S	9	4	.....	.....	9	.....	.....	0	0	.....	
Christiania	30.37	771.5	30.53	775.5	23.5	— 4.7	86	ENE	.....	.....	.....	.....	10	.....	.....	0	0	.....	
Tromsö	30.14	765.5	30.18	766.6	37.0	— 2.8	82	SW	18	8	.....	.....	10	.....	.....	0.559	14.2	Light rain.	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.50	749.4	29.70	754.3	58.3	14.6	91	W	5.6	2.5	.....	.....	10	.....	.....	0.077	4.5	Raining	Dr. J. A. Sampaio.
Campo Major	29.26	743.1	29.30	769.5	54.5	12.5	88	Calm	0	0	.....	.....	10	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.14	765.5	30.23	767.7	64.2	17.9	63	SE	3.8	1.7	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.94	760.5	30.31	769.8	52.3	11.3	99	NE	1.3	0.6	.....	.....	10	.....	.....	0.035	0.9	.....	The Staff.
Ponta Delgada, (Azores)	29.74	755.5	29.82	757.3	63.7	17.6	88	SW	29.8	13.3	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the barometer-readings in millimeters of the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Madeira is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'r
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, (Gulf of Guinea)	.....	.....	.....	.....

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.43	773.0	30.47	774.0	21.2	— 6.0	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.39	771.8	30.44	773.1	23.0	— 5.0	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Hernosand	30.42	772.6	30.47	773.9	23.7	— 4.6	90	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Stockholm	30.30	769.6	30.48	774.1	27.7	— 2.4	79	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Wisby	30.30	769.7	30.36	771.2	29.8	— 1.2	76	E	.....	.....	6	.....	10	.....	.....	0.055	1.4	.....	
Sub-Series.																			
Upsala	30.40	772.1	30.47	774.0	25.0	— 3.9	89	NNW	2.7	1.2	.....	.....	10	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor P. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.67	728.1	30.16	766.0	33.3	0.7	82	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.47	723.2	30.18	766.6	34.6	1.0	84	SE	.....	.....	1	.....	9	.....	.....	0.157	4.0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.5 mm.; Thermometer, +0.8 cent.; Relative Humidity, +3 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.18	766.5	40.8	4.9	66	ENE	11	5.0	.....	.....	10	.....	NE	0.217	5.5	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.88	758.9	49.1	9.5	.....	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.95	760.7	30.07	763.8	67.5	19.7	75	SW	.....	.....	1	.....	9n	.....	SW	0.66	16.8	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

CANADIAN SERIES.

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

Bathurst, N. B	29.67	753.6	29.74	755.4	9.5	—12.5	.....	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.32	744.7	29.63	752.6	29	— 1.7	.....	SW	8	3.6	.....	.....	8s	.....	SW	0.30	7.6	Cloudy.....	W. R. Bigg.
*Chatham, N. B	29.75	755.6	29.82	757.4	12	—11.1	92	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.86	758.4	29.91	759.7	20	— 6.7	92	S	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.37	746.0	29.57	751.1	16.2	— 8.8	97	NW	.....	.....	3	.....	10n	.....	.....	0.20	5.1	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.09	764.3	30.14	765.5	39.1	3.9	100	N	.....	.....	.....	.....	10	.....	.....	0.37	9.4	Overcast.....	W. H. Bevis.
*Father Point, Quebec	29.58	751.3	29.60	751.8	16	— 8.9	69	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.74	755.4	29.81	757.2	12.6	—10.8	92	SE	2	0.9	.....	.....	10n	.....	.....	0.21	5.3	Light snow.	Prof. Harrison.
*Fort Garry, Manitoba	29.41	747.0	30.38	771.6	—18	—27.8	100	NW	2	0.9	.....	0	2s	.....	NW	0	0	Fair	James Stewart.
Granton, Ontario	28.78	731.0	29.94	760.5	23	— 5.0	.....	W	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Overcast.....	James Grant.
*Halifax, N. S	29.81	757.2	29.95	760.7	22	— 5.6	94	SW	8	3.6	.....	.....	10n	.....	S	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.51	749.5	29.89	759.2	29.5	— 1.4	73	SW	.....	.....	1	10cs	0	E	.....	0.10	2.5	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.81	757.2	29.84	757.9	11	—11.7	100	W	.....	.....	2	0	1ks	.....	W	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.37	746.0	29.72	754.9	29	— 1.7	92	W	13	5.8	.....	10cs	0	Calm	.....	0.02	0.5	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.87	758.7	29.91	759.7	11.7	—11.3	92	SW	4	1.8	.....	.....	10n	.....	.....	0	0	Overcast.....	C. H. Rigby.
Moose Factory, Ontario	29.73	755.1	29.77	756.1	2.9	—16.2	84	N	.....	.....	4	0	10n	.....	.....	0.05	1.3	Cloudy	J. R. Nason.
*Montreal, Quebec	29.36	745.7	29.57	751.1	14	—10.0	87	SE	5	2.2	.....	.....	10n	.....	.....	0.23	5.8	Heavy snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.00	736.6	29.73	755.1	26	— 3.3	88	W	26	11.6	.....	5k	5ks	W	W	0.10	2.5	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	28.97	735 8	29.75	755.6	27.4	— 2.6	52	W	.....	.....	.....	.....	9ks	.....	.....	.....	.....	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.22	742.2	29.95	760.7	27	— 2.8	88	W	8	3.6	.....	8k	0	W	.....	0.09	2.3	Fair.....	H. Morgan.
Port Hastings, N. S	29.94	760.5	29.99	761.7	13.9	—10.1	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.29	744.0	29.97	761.2	27	— 2.8	80	W	.....	.....	.....	.....	10n	.....	W	0.20	5.1	Cloudy.....	M. Payne.
*Quebec, Quebec	29.28	743.7	29.62	752.3	14	—10.0	100	Calm	.....	.....	0	.....	10n	.....	Calm	0.10	2.5	Heavy snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.13	739.9	29.62	752.3	14	—10.0	85	W	3	1.3	.....	.....	10s	.....	W	0.07	1.8	Light snow..	W. H. McIntyre.
St. Andrews, N. B	29.76	755.9	29.81	757.2	29	— 1.7	86	SW	.....	.....	4	.....	10n	.....	.....	Inap.	Inap.	Light snow.	Dr. Grove.
St. John, N. B	29.64	752.8	29.81	757.2	31	— 0.6	89	S	24	10.7	.....	.....	10n	.....	.....	0.35	8.9	Overcast.....	G. Murdock, C. E.
*Saugeen, Ontario	29.09	738.9	29.84	757.9	29	— 1.7	79	W	30	13.4	.....	.....	10s	.....	.....	0.12	3.0	Cloudy.....	K. Stewart.
Stayner, Ontario	28.98	736.1	29.79	756.7	28	— 2.2	89	NW	16	7.2	.....	10k	0	NW	.....	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.56	725.4	29.91	759.7	23.2	— 4.9	93	W	17	7.6	.....	.....	10s	.....	.....	0.25	6.3	Overcast.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.97	761.2	30.01	762.2	14	—10.0	87	S	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.45	748.0	29.85	758.2	28	— 2.2	77	W	16	7.2	.....	.....	10ks	.....	W	0.06	1.5	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.83	757.7	29.93	760.2	24.0	— 4.4	87	W	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	13.0	—10.6	81	W	.....	.....	.....	1c	1s	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millims.	Weather.	Observer.
Albany, New York	29.51	749.5	29.74	755.4	26	— 3.3	88	S	15	6.7	.....	.....	10n	.....	Calm	0.02	0.5	Heavy snow	
Alpena, Michigan	29.25	742.9	29.52	757.4	22	— 5.6	72	W	13	5.8	.....	0	5s	.....	W	0.08	2.0	Fair	
Atlanta, Georgia	28.28	733.5	30.03	762.8	49	9.4	85	N	6	2.7	.....	.....	10n	.....	Calm	0.32	8.1	Light rain	
Atlantic City, New Jersey	29.86	758.4	29.87	758.7	33	0.6	100	S	8	3.6	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Augusta, Georgia	29.94	760.5	30.12	765.0	49	9.4	93	NW	2	0.9	.....	.....	10n	.....	NW	0.13	3.3	Light rain	
Baltimore, Maryland	29.87	758.7	29.92	760.0	35	1.7	90	SE	2	0.9	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Barnegat, New Jersey	29.85	758 2	29.87	758.7	33	0.6	100	SW	10	4.5	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Bismarck, Dakota	28.41	721.6	30.26	768.6	—16	—26.7	100	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.70	729.0	30.07	763.8	36	2.2	80	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.59	700.8	30.55	776 0	23	— 5.0	79	S	4	1.8	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Boston, Massachusetts	29.59	751.6	29.75	755.6	34.0	1.1	90	S	10	4.5	.....	.....	10n	.....	S	0.03	0.8	Light snow	
Brackettville, Texas	29.10	739.1	30.15	765.8	52	11.1	54	W	4	1.8	.....	Haze	0	Calm	.....	0	0	Hazy	
Breckenridge, Minnesota	29.16	740.7	30.32	770.1	—12	—24.4	100	NW	13	5 8	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.03	762.8	30.09	764.3	66	18.9	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Buffalo, New York	29.15	740.4	29.87	758 7	29	— 1.7	67	W	18	8.0	.....	.....	10s	.....	W	0.12	3.0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	24	— 4.4	48	Calm	.....	.....	0	2c	0	N	.....	0	0	Clear	
Burlington, Vermont	29.33	745.0	29.63	752.6	26	— 3.3	82	S	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Cairo, Illinois	29.86	758.4	30.28	769.1	27	— 2.8	76	N	4	1.8	.....	0	0	.....	.....	0.96	24.4	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	30	— 1.1	78	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	17	— 8.3	19	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.71	703.8	30.28	769.1	48	6.1	75	E	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolin	29.99	761.7	30.00	762.0	52	11 1	93	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	41	5.0	91	SW	6	2.7	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Cape Lookout, N. Carolin	30.03	762.8	30.04	763.0	55	12.8	93	SW	20	8.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Cape May, New Jersey	29.86	758.4	29.89	759.2	36	2.2	100	S	10	4.5	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Castroville, Texas	29.39	746.5	30.13	765.3	40	4.4	82	W	4	1.8	.....	2ck	0	Calm	.....	0	0	Fair	
Charleston, South Carolin	30.05	763.3	30.12	765.0	57	13.9	94	W	6	2.7	.....	10cs	0	W	.....	0	0	Cloudy	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	15	— 9.4	82	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.33	745.0	30.09	764.3	10	—12.2	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.50	749.3	30.19	766.8	30	— 1.1	68	NW	5	2.2	.....	0	Sm'e	.....	NW	0.44	11.2	Clear	
Cleveland, Ohio	29.30	744.2	30.06	763.5	27	— 2.8	64	W	18	8.0	.....	0	0	.....	.....	0.23	5.8	Clear	
Coleman City, Texas	28.44	722.4	30.22	767.6	27	— 2.8	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.24	742.7	30.13	765.3	27	— 2.8	67	NW	8	3.6	.....	0	0	.....	.....	0.39	9.9	Clear	
Corpus Christi, Texas	28.21	716.5	30.00	762.0	26	— 3.3	88	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.72	754.9	30.22	767.6	32	0.0	69	NW	6	2.7	.....	0	0	.....	.....	0.94	23.9	Clear	
Davenport, Iowa	29.46	748.3	30.17	766.3	6	—14.4	76	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Deadwood, Dakota	25.43	645.9	.....	.....	10	—12.2	79	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	29.03	737.3	30.28	769.1	*29	— 1.7	78	N	2	0.9	.....	0	0	.....	.....	0 21	5.3	Clear	
Denison, Texas	29.38	746.2	30.23	767.8	28	— 2.2	88	NW	6	2.7	.....	0	0	.....	.....	0.16	4.1	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	24	— 4.4	36	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.26	743.2	30.22	767.6	15	— 9.4	82	NW	3	1.3	.....	0	2s	.....	NW	0.01	0.3	Clear	
Detroit, Michigan	29.29	744.0	30.00	762.0	23	— 5.0	86	SW	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	
Dodge City, Kansas	27.55	699.8	30.08	764.0	8	—13 3	78	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.16	766.1	0	—17.8	70	Calm	0	0	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Duluth, Minnesota	29.27	743.4	30.01	762.2	8	—13.3	78	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Eagle Pass, Texas	29.38	746.2	30.15	765.8	45	7.2	84	Calm	0	0	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Eastport, Maine	29.73	755.1	29.80	756.9	32	0.0	79	S	15	6.7	.....	.....	10n	.....	S	Inap.	Inap	Light snow	
Edinburg, Texas	.....	.....	.....	.....	59	15.0	100	NE	.....	.....	6	.....	10n	.....	.....	Inap.	Inap.	Light rain	
El Paso, Texas	.....	.....	.....	.....	47	8.3	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.22	742.2	29.96	761.0	30	— 1.1	78	W	20	8.9	.....	.....	10s	.....	Calm	0.37	9.4	Cloudy	
Escanaba, Michigan	29.16	740.7	29 86	758.4	7	—13.9	77	SW	4	1 8	.....	0	2s	.....	SW	0.01	0.3	Clear	
Florence, Arizona	28.82	732.0	30.42	772.6	29	— 1.7	78	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota Ter	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.74	653.8	29.80	756.9	31	— 0.6	68	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.34	643.6	30.30	769.6	44	6.7	30	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.65	753.1	30.23	767.8	23	— 5.0	73	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.94	734.1	30.32	770.1	25	— 3.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana Ter	.....	.....	.....	.....	3	—16.1	.....	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	28.91	711.4	30.04	763.0	35	1.7	53	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.95	735.3	30.13	765.3	26	— 3.3	84	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.44	722.4	30.05	763 3	45	7.2	61	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.08	764.0	30.13	765.3	54	12.2	93	N	12	5 4	.....	.....	10s	.....	N	0	0	Cloudy	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.32	744.7	29.99	761.7	28	— 2.2	77	SW	12	5.4	.....	0	0	.....	.....	0.07	1.8	Clear	
Indianapolis, Indiana	29.34	745.2	30.18	766.6	19	— 7.2	85	NW	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear	
Indianola, Texas	30.13	765.3	30.16	766.1	50	10.0	86	N	24	10.7	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Jacksboro, Texas	29.03	737 3	30.25	768.3	25	— 3.9	87	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.09	764 3	60	15.6	88	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.50	749.3	30.18	766.6	10	—12.2	79	W	4	1.8	.....	4c	2s	W	W	0	0	Fair	
Key West, Florida	30.12	765.0	30.15	765.8	70	21.1	90	NE	4	1.8	.....	0	2s	.....	E	0	0	Fair	
Kittyhawk North Carolina	29.98	761.5	30.00	762.0	49	9.4	100	NW	17	7.6	.....	.....	10n	.....	NW	0.32	8.1	Light rain	
Knoxville, Tennessee	29.04	737.6	30.06	763.5	44	6.7	96	NW	4	1.8	.....	.....	10n	.....	NW	0.72	18.3	Light rain	
La Crosse, Wisconsin	29.28	743.7	30.07	763.8	14	—10.0	82	SW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.32	668.5	30.47	773.9	28	— 2.2	67	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.71	754.6	30.06	763.5	55	12.8	81	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.32	744.7	30.25	768.3	10	—12.2	79	SE	1	0.4	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.93	760.2	30.28	769.1	43.1	6.4	56	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.61	752.1	30.20	767.1	29	— 1.7	67	NW	6	2.7	.....	0	Sm'e	.....	Calm	0.90	22.9	Clear	
Lynchburg, Virginia	29.27	743.4	29.97	761.2	39	3.9	80	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Threatening	
Madison, Wisconsin	29.00	736.6	30.06	763.5	14	—10.0	64	W	10	4.5	.....	0	0	.....	.....	0.07	1.8	Clear	
Marquette, Michigan	29.04	737.6	29.79	756.7	15	— 9.4	65	W	9	4.0	.....	0	5s	.....	Calm	Inap	Inap	Fair	
Mason, Texas	28.53	724.6	30.41	772.4	32	0.0	69	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Memphis, Tennessee	29.88	758.9	30.22	767.6	34	1.1	79	NE	9	4.0	.....	.....	10s	.....	NE	1.62	41.1	Cloudy	
Milwaukee, Wisconsin	29.23	742.4	30.02	762.5	14	—10.0	82	W	16	7.2	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
Mobile, Alabama	30.00	762 0	30.04	763.0	58	14 4	100	SW	3	1.3	.....	.....	Fog	.....	.....	0.18	4.6	Dense fog	
Montgomery, Alabama	29.81	757.2	30.05	763.3	56	13.3	93	NE	5	2.2	.....	.....	10ks,fg	.....	NE,Calm	0.35	8.9	Threatening	
Morgantown, West Virginia	28.91	734.3	29.98	761 5	40	4.4	73	NW	10	4.5	.....	5ks	1s	Calm	NW	0.16	4.1	Fair	
Mt. Washington, N. H.	23.18	588.8	29.54	750.3	12	—11.1	100	W	60	26.8	.....	.....	Fog	.....	W	0	0	Foggy	
Nashville, Tennessee	29.04	752.8	30.20	767.1	35	1.7	90	N	3	1.3	.....	0	8ks	.....	NW	1.83	46.5	Fair	
New Haven, Connecticut	29.72	754.9	29.84	757.9	34	1.1	79	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
New London, Connecticut	29.78	756.4	29.83	757.7	33	0.6	94	SW	11	4.9	.....	.....	10n	.....	SW	0.07	1.8	Light snow	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	64	17.8	89	NW	5	2.2	.....	2k	5ks	W	Calm	1.15	29.2	Clearing	
Newport, Rhode Island	29.76	755.9	29.81	757.2	36	2.2	90	SW	12	5.4	.....	.....	10n	.....	Calm	0 08	2.0	Light rain	
New York, New York	29.69	754.1	29.87	758.7	28	— 2.2	100	SW	8	3.6	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Norfolk, Virginia	29.91	759.7	29.97	761.2	39	3.9	100	S W	8	3.6	.....	.....	10s	.....	Calm	0.20	5.1	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.23	691.6	30.10	764.5	3	—16.1	73	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	30.27	768.8	30.31	769.9	39.2	4.0	91	S	9	4.0	.....	.....	10n	.....	.....	0.22	5.6	Light rain.	
Omaha, Nebraska	29.01	736.8	30.20	767.1	16	— 8.9	83	W	4	1.8	.....	.....	2s	.....	.....	0	0	Clear	
Oswego, New York	29.42	747.2	29.74	755.4	36	2.2	90	W	20	8.9	.....	0	2s	.....	Calm	0	0	Clear	
Pembina, Dakota	28.33	745 0	30.31	769.9	—16	—26.7	100	NW	16	7.2	.....	.....	10s	.....	W	0.06	1.5	Cloudy	
Philadelphia, Pa	29.84	757.9	29.89	759.2	34	1.1	90	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	29.22	742.2	31.18	792.0	32	0.0	69	S	.....	.....	1	.....	10s;fg	.....	Calm	0.02	0.5	Cloudy	
Pike's Peak, Colorado	17.47	443.7	29.68	753.9	—16	—26.7	39	W	38	17.0	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.32	617.7	30.10	764.5	20	— 6.7	56	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.15	740.4	29.98	761.5	35	1.7	70	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.26	743.2	29.96	761.0	22	— 5.6	86	W	10	4.5	.....	0	5s	.....	NW	0.26	6.6	Fair	
Portland, Maine	29.69	754.1	29.74	755.4	30	— 1.1	80	Calm	0	0	.....	.....	10n	.....	Calm	0.20	5.1	Clear	
Portland, Oregon	30.36	771.1	30.47	773.9	38.7	3.6	91	S	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Light snow.	
Prescott, Arizona	24.95	633.7	30.31	769.9	12	—11.1	80	S	2	0.9	.....	0	0	.....	.....	0	0	Cloudy	
Pilot Point, Texas	29.04	737.6	29.92	760.0	25	— 3.9	38	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	65	18.3	89	SE	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Red Bluff, California	30.12	765.0	30.51	774.9	32	0.0	95	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.95	760.7	30.16	766.1	61	16.1	88	NE	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Clear	
Rochester, New York	29.15	740.4	29.77	756.1	33	0.6	89	W	23	10.3	.....	.....	10s	.....	W	0	0	Cloudy	
Roseburg, Oregon	29.94	760.5	30.54	775.7	35.0	1.7	95	Calm	0	0	.....	0	2s	.....	Calm	0.01	0.3	Cloudy	
Sacramento, California	30.39	771.9	30.48	774.2	34.1	1.2	92	N	1	0.4	.....	0	0	.....	.....	0.01	0.3	Fair	
St. Louis, Missouri	29.65	753.1	30.28	769.1	20	— 6.7	70	W	7	3.1	.....	0	0	.....	.....	0.120	3.05	Clear	
St. Marks, Florida	30.07	763.8	30.08	764.0	57	13.9	94	S	3	1.3	.....	1ck	5s	W	W	0	0	Clear	
St. Paul, Minnesota	29.20	741.7	30.11	764.8	6	—14.4	88	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Salt Lake City, Utah	26.00	660.4	30.33	770.4	27	— 2.8	76	SW	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
San Antonio, Texas	29.49	749.0	30.10	764.5	41	5.0	74	N	3	1.3	.....	0	0	.....	.....	0.14	3.6	Clear.	
San Diego, California	30.20	767.1	30.27	768.8	42.0	5.6	70	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Sandusky, Ohio	29.36	745.7	30.06	763.5	28	— 2.2	77	W	14	6.3	.....	0	0	.....	.....	0.04	1.0	Clear	
Sandy Hook, New Jersey	29.82	757.4	29.85	758.2	32	0.0	89	SW	8	3.6	.....	.....	10n	.....	SW	0.02	0.5	Light rain.	
San Francisco, California	30.42	772.6	30.48	774.2	42.5	5.8	73	E	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear	
Santa Fé, New Mexico	23.35	593.1	29.89	759.2	11	—11.7	60	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.01	762.2	30.11	764.8	56	13.3	94	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Shreveport, Louisiana	29.96	761.0	30.19	766.8	42	5.6	91	N	6	2.7	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
Silver City, New Mexico	24.35	618.5	30.87	784.1	23	— 5.0	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.04	763.0	30.08	764.0	54	12.2	93	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.64	752 8	29.78	756 4	29	— 1.7	78	S	4	1.8	.....	.....	10n	.....	S	Inap.	Inap.	Light snow.	
Stockton, Texas	27.16	689.8	30.16	766.1	36	2.2	80	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass	29.71	754.6	29.76	755.9	37	2.8	81	SW	24	10.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	29.33	745.0	30.04	763.0	28	— 2.2	77	SW	8	3.6	.....	0	Haze	.....	Calm	0.01	0.3	Clear	
Tucson, Arizona	.....	.....	.....	.....	29	— 1.7	46	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.09	764.3	30.12	765.0	54	12.2	93	W	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Umatilla, Oregon	30.09	764.3	30.62	777.7	28.0	— 2.2	88	SE	4	1.8	.....	.....	10s	.....	SE	0.05	1.3	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	29	— 1.7	89	W	.....	.....	6	.....	10s	.....	NW	0	0	Cloudy	
Uvalde, Texas	29.32	744.7	30.18	766.6	45	7.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississipp	29.89	759.2	30.16	766.1	47	8.3	96	N	5	2.2	.....	.....	10s	.....	Calm	0.58	14.7	Cloudy	
Virginia City, Montana	24.40	619.8	29.88	758.9	19	— 7.3	69	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Visalia, California	30.11	764.8	30.51	774.9	30	— 1.1	89	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.78	756.4	29.90	759.4	36	2.2	100	S	4	1.8	.....	.....	10n;fg	.....	Calm	0.04	1.0	Light rain.	
Wickenburg, Arizona	.....	.....	.....	.....	30	— 1.1	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.96	761.0	30.03	762.8	62	16.7	83	SW	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Winnemucca, Nevada	26.04	661.4	30.40	772.1	6	—14.4	76	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.75	755.6	29.79	756.7	36	2.2	90	SE	15	6.7	.....	.....	10s	.....	SW	0	0	Threatening	
Yankton, Dakota	29.01	736.8	30.47	773.9	3	—16.1	73	NW	15	6.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	30.24	768.1	30.42	772.6	35	1.7	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayettville, Ark	28.61	726.7	30.12	765.0	24	— 4.4	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	30.16	764.5	30.12	765.0	72	22.2	81	SE	1.2	0.5	.....	0	0	.....	.....	0	0	Clear	J. B. Gordon.
Kingston, Jamaica, W. I	30.21	767.3	30.22	767.6	77	25.0	82	Calm	0	0	.....	8c	8s	SE	E	0	0	.....	Chas. Hasselbrink.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Navassa, W. I	30.00	762.0	30.08	764.0	79	26.1	.....	NE	5	2.2	.....	.....	.....	.....	.....	0	0	Fair	Thomas Herran.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	83	28.3	75	E	.....	.....	1	3c	5k	E	.....	0	0	Fair	F. M. Everett.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. Hering.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	30.03	762.8	30.08	764.0	—34.0	—36.7	.....	N	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear.	G. O. Gellich.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,533 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,478.9 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 753.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,293 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,060 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.3 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,156.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.37	771.4	38	3.3	34	1.1	100	N	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.15	765.8	59	15.0	59	15.0	94	SW	7	3.1	.....	.....	.....	.....	SW	.....	.....	.....	.....	Stormy.....	
Navy Yard, Portsmouth, N.H	29.75	755.6	50	10.0	31	— 0.6	79	SSW	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan *	30.18‡	766.6‡	.....	.....	36	2.2	38	N	.....	.....	5	.....	Haze	.....	Calm	0	0	.....	.....	Clear.....	
Alliance. Smyrna, Turkey	30.10‡	764.5‡	.....	.....	50	10.0	72	ENE	.....	.....	3–5	.....	10	.....	N; E	.....	.....	.....	.....	Drizzling.....	
Ashuelot. N. 13° 43′, E. 100° 29′	29.94	760.5	80	26.7	80	26.7	87	SSW	.....	.....	2	.....	5	.....	S	.....	.....	Smooth	.....	Fair	
Canonicus, New Orleans, La	30.16	766.1	45	7.2	60	15.6	100	W	.....	.....	4	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	29.83	757.7	29	— 1.7	29	— 1.7	100	SW	2	0.9	.....	.....	10	.....	SW	.....	.....	.....	.....	Rainy.....	
Constitution, Spit Head, England	29.89‡	759.2‡	.....	.....	40	4.4	91	Calm	0	0	.....	.....	10	.....	Calm	.....	.....	.....	.....	Foggy	
Despatch. Constantinople, Turkey	30.18‡	766.6‡	.....	.....	44	6.7	68	NNE	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.	
Essex, S. 38° 27′, W. 56° 34′	29.74	755.4	66	18.9	66	18.9	94	WSW	.....	.....	3	.....	1	.....	NNE	.....	.....	Smooth	NW	Clear.....	
Franklin, Norfolk, Va.	30.13	765.3	73	22.8	42	5.6	91	SW	9.6	4.3	.....	.....	10	.....	Calm	1.5	38.	.....	.....	Raining.....	
Gettysburg. Genoa, Italy	30.00‡	762.0‡	.....	.....	49	9.4	71	N	.....	.....	4	.....	8	.....	N	0	0	.....	.....	D. clouds.....	
Hartford. Montevideo, Uruguay	29.96	761.0	76	24.4	76	24.4	64	W	12	5.4	.....	.....	2	.....	.....	0	0	Smooth	.....	Hazy.....	
Lackawana, Panama *	29.76‡	755.9‡	.....	.....	78	25.6	95	NW	.....	.....	2	.....	2	.....	.....	Blank	Blank	Smooth	.....	Clear.....	
Michigan, Erie, Pa	29.99†	761.7†	.....	.....	29	— 1.7	66	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. N. 33° 32′, E. 135° 00′ *	30.27‡	768.8‡	.....	.....	42	5.6	100	NNW	.....	.....	3	.....	2	.....	NNW	.....	.....	Smooth	NW	Fair.....	
Monongehela, Yokohama, Japan	30 18‡	766.6‡	.....	.....	34	1.1	62	N	.....	.....	3–5	.....	1	.....	N	0	0	.....	.....	Blue sky	
New Hampshire, Port Royal, S. C.	30.25†	768.3†	.....	.....	52	11.1	??	W	4	1.8	.....	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.04†	763.0†	.....	.....	68	20.0	95	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.24	768.1	36	2.2	27	— 2.8	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	36	2.2	85	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama	29.93‡	760.2‡	.....	.....	80	26.7	91	WNW	3	1.3	.....	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Powhatan, Norfolk, Va.	29.99	761.7	41	5.0	41	5.0	91	S	9.5	4.2	.....	.....	10	.....	W	0.8	20.	.....	.....	Light rain ...	
Quinnebaug, N. 35° 22′, W. 56° 28′	30.28‡	769.1‡	.....	.....	54	12.2	74	NNE	.....	.....	3	.....	5	.....	NE	.....	.....	Mod'ate	N	Fair.....	
Ranger. Yokohama, Japan	30.17‡	766.3‡	.....	.....	39	3.9	55	NNW	.....	.....	4–5	.....	2	.....	Calm	.....	.....	Mod'ate	NNW	Clear.....	
Richmond, N. 34° 25′, W. 52° 08′	30.22‡	767.6‡	.....	.....	54	12.2	74	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Mod'ate	NNW	Fair	
Rio Bravo, Brownsville, Texas	30.02	762.5	67	19.4	66	18.9	100	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md	29.89‡	759.2‡	.....	.....	34	1.1	100	E	.....	.....	1	.....	10	.....	.....	0.13	3.3	.....	.....	Overcast.....	
St. Louis, League Island, Pa	29.83	757 7	52	11.1	33	0.5	.....	SW	10	4.5	.....	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Supply, N. 46° 47′, W. 12° 33′	30.10‡	764.5‡	.....	.....	56	13.3	94	SSW	.....	.....	3	.....	2	.....	SW	.....	.....	Long	SW	Clear.	
Trenton Villafranca, France *	30.07‡	763 8‡	.....	.....	53	11.7	73	W	.....	.....	0–1	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Tuscarora, Panama	29.92‡	760.0‡	.....	.....	78	25.6	86	NW	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Clear.	
Wabash, Boston, Mass	29.78‡	756.4‡	.....	.....	33	0.6	90	S	11	4.9	.....	.....	10	.....	.....	0.06	1.5	.....	.....	Light rain...	
Wyoming, Naples, Italy	30.06	763.5	63	17.2	49	9.4	78	NNE	.....	.....	3–4	.....	5	.....	NE	.....	.....	Smooth	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—12.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the cooperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 18° 6′, W. 108° 10′		30.00*	762.0*	76	24.4	91	NW			1		2						D. clouds	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Grenada, N. 10° 35′, W. 86° 30′		30.18†	765.3†	80	26.7	??	NE			5		6		ENE	0	Short	NE	Hazy	R. C. Ghest, 1st Officer
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.06	763.5				SSE			2–6				S				Squally	

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

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Offr
S. S. Gaelic, N. 45° 26′, E. 175° 00′		30.27†	768.8†	40	4.4	100	SSE			6		ks		Var.	Blank	High	SE	Squally	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the cooperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 20′ W. 8° 36′		29.05	737.9	56.8	13.8		W			4		2		WSW	0	7	W	Clear	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 56′, W. 68° 56′		29.83*	757.7*	48	8.9	89	WSW			6		9		SW	0	Smooth		Cloudy	Captain Sargent.
S. S. Ohio, N. 50° 33′, W. 20° 49′		29.21†	741.9†	51	10.6	??	SSW			7		10		SSW	Blank	Cross	SW; NW	Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 37° 21′, W. 74° 05′		29.76*	755.9*	49	9.4		SSW			5		10k;s		SW		Moderate; Short	ENE	Raining	Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, Orient, Long Island		29.87	758.7	32	0.0	100	WSW	8	3.6			10n		W	0.46in. or11.7 mm.			Snowing	Capt. James Jorgensen

NOTE —The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

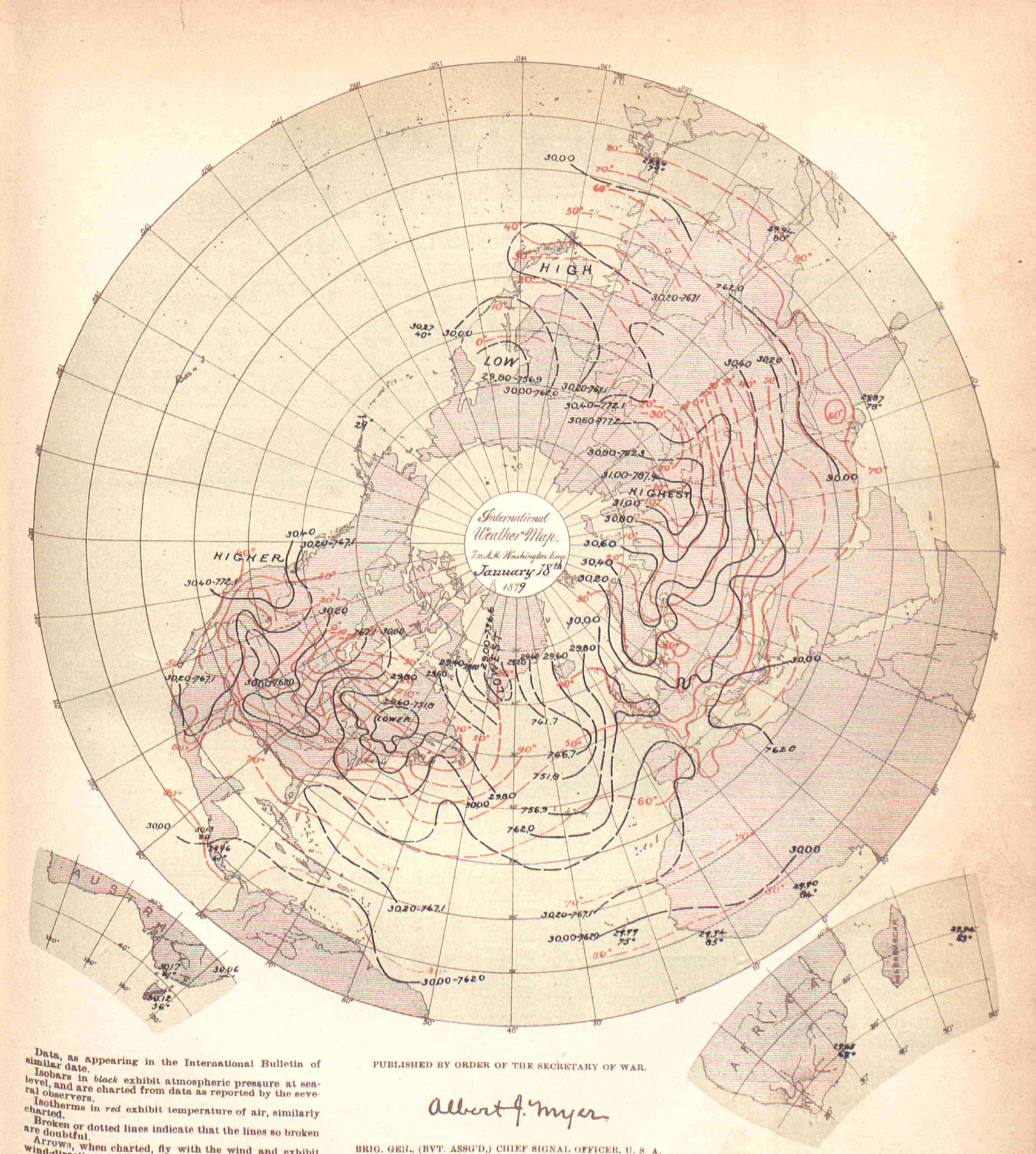
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 19, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centicrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.24	768.2	61.0	16.1	76	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	
Nemours	.....	.....	30.13	765.3	64.8	18.2	69	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.04	762.9	60.8	16 0	73	W	.....	.....	3	.....	2	.....	.....	Inap	Inap.	Fair	Touriliere.
La Calle	.....	.....	30.06	763.4	53.6	12.0	93	N	.....	.....	4	.....	10	.....	.....	0.236	6.0	Raining	Foufrede.
Tunis	.....	.....	30.00	762.0	54.3	12.4	86	W	.....	.....	4	.....	10	.....	.....	0.075	1.9	Raining	Jacques.
Sfax	.....	.....	30.12	765.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.08	764.1	62.6	17.0	61	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.00	762.1	56.3	13.5	48	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.01	763.0	46.0	7.8	97	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.06	763.5	64.8	18.2	40	ESE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.07	763.7	64 9	18.3	30	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.60	751.8	30.18	766.6	31.3	— 0.4	87	NE	.....	.....	3	.....	7	.....	.....	0.016	0.4	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.49	749.0	30.31	769.8	25.9	— 3.4	93	NNE	.....	.....	1	.....	10	.....	.....	0.051	1.3	.....	Dr. Wierzbiski
Eperies	29.27	743.5	30.22	767.5	23.4	— 4.8	81	N	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Julius Mikolik.
Gratz	28.88	733.6	30.20	767.1	32.2	0.1	81	S	.....	.....	3	.....	8	.....	.....	0 002	0 05	.....	Andreas Rospini
Hermannstadt	28.62	727.0	30.16	766.1	21.2	— 6.0	93	SE	.....	.....	0	.....	5	.....	.....	0.089	2.25	.....	Prof. A. Gottschling.
Kremsmünster	28.77	730.8	30.20	767.1	26.6	— 3.0	91	ENE	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.15	740.5	30.21	767.4	22.3	— 5.4	98	S	.....	.....	1	.....	10	.....	.....	0.039	1.0	.....	Dr. T. Stanecki.
Pola	29.95	760.6	30.07	763.6	40.6	4.8	48	E	.....	.....	3	.....	3	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.67	753.7	30.25	768.3	27.3	— 2.6	96	N	.....	.....	3	.....	6	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.87	758.7	30.17	766.3	25.0	— 3.9	93	W	.....	.....	2	.....	10	.....	.....	0.024	0.60	.....	Karl Stancel.
Trieste	29.98	761.4	30.08	764.0	37.8	3.2	63	ENE	.....	.....	4	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.50	749.4	30.27	768.9	26.2	— 3.2	74	N	.....	.....	3	.....	8	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:8 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.32	770.1	30 42	772.6	37.2	2.9	.....	SSE	22	9.8	.....	.....	9	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.20	767.1	38.0	3.3	.....	SE	20	8.9	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.33	770.4	33.8	1.0	.....	E	21	9.4	.....	.....	0	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton	.....	.....	30.36	771.1	32.5	0.3	.....	ESE	18	8.0	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.92	760.0	29.95	760.7	82.5	28.1	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.39	771.9	34.0	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [O.
Cardington	.....	.....	30.43	772.9	33.4	0.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.21	767.3	30.35	770.9	34.7	1.5	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Davis.
Dartmoor	28.68	728.5	30.21	767.3	32.0	0.0	.....	E	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy.....	Alexander Watt.
Donaghadee	30.23	767.8	30.27	768.8	37	2.8	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	30.30	769.6	30.32	770.1	36	2.2	.....	ENE	.....	.....	4	.....	7	.....	.....	.....	.....	¾ clouded...	J. Costello.
Falmouth, Observatory	29.99	761.7	30.23	767.8	41.6	5.3	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.52	699.0	29.85	758.2	60.2	15.7	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G.Salmon, A.H.C.
Free Town, (Sierra Leone)	29.70	754.4	29.93	760.2	86	30.0	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.97	761.2	41	5.0	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.06	763.5	30.12	765.0	63.7	17 6	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.16	766 1	30.37	771.4	35.0	1.7	.....	SE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	30.36	771.1	30.37	771.4	33	0.6	.....	E	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast.....	G. T. Watson.
Greenwich, Royal Obs'y	30.18	766.6	30.36	771.1	34.1	1.2	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G. B. Airy
Guernsey	30.02	762.5	30.25	768.3	40	4.4	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	30.12	765.0	30.24	768.1	44	6.7	.....	SE	.....	.....	6	.....	6k	.....	.....	0.25	6.3	Gloomy.....	M. P. Moyle.
Holyhead	30.21	767.3	30.26	768.6	38	3.3	.....	SSE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.96	761.0	30.27	768.8	38.5	3.6	.....	S	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	30.32	770.4	30.36	771.1	34.5	1.4	.....	ENE	16	7.2	.....	.....	3	.....	.....	.....	.....	D. clouds.....	The Staff.
Leicester, Museum	30.14	765.5	30.40	772.1	33.0	0.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.72	754.9	29.79	756.7	58	14.4	.....	N	.....	.....	1	.....	3n	.....	.....	.....	.....	Showery.....	Sergt. Beckett, A. H. C.
Naira	30.18	766.6	30.28	769.1	35	1.7	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	74.0	23.3	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.20	767.1	30.40	772.1	32.9	0.5	.....	SE	.....	.....	2	.....	10k	.....	Calm	0.003	0.08	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.82	757.4	30.38	771.6	32.0	0.0	.....	ENE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.38	771.6	33	0.6	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. E. Bellamy.
Plymouth	30.16	766.1	30.24	768.1	38.1	3.4	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	30.03	762.8	30.08	764.0	45	7.2	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.34	770.6	36.9	2.7	.....	S	36	16.1	.....	.....	7	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Hospital (Turkey	.....	.....	29.81	757.2	46.6	7.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	Sergt. W. H. Lyne.
Sheffield	30.14	765.5	30.44	773.2	33.3	0.7	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.31	769.9	30.34	770.6	36.4	2.4	81	SE	.....	.....	6	.....	0	.....	.....	0	0	Blue sky.....	F. H. Redford.
Stonyhurst Observatory	29.98	761.5	30.39	771.9	33.1	0.6	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stratfield Turgiss	30.13	765.3	30.36	771.1	33.6	0.9	.....	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Foggy	Rev. C. H. Griffith, F.M.S.
Thurso	30.24	768.1	30.31	769 9	37	2.8	.....	SSE	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro Royal Institution	.....	.....	30.20	767.1	41	5.0	.....	SE	.....	.....	8	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.90	759.4	29.92	760.0	46.0	7.8	.....	ESE	42	18.8	.....	.....	10	.....	.....	.....	.....	Heavy rain.	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	30.12	765.0	55	12.8	88	NW	.....	.....	1	.....	4k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.40	772.1	36.0	2.2	.....	SE	.....	.....	3	.....	2k	.....	.....	0	0	Fine.....	Andrew Gibb.
Mauritius, Observatory	29.75	755.6	29.94	760.5	81.4	27.4	72	ESE	18.5	8.3	.....	0	4	.....	S	0.33	8.4	Fine	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	62.6	17.0	68	ESE	3	1.3	.....	.....	6	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.09	764.3	39	3.9	.....	SSE	.....	.....	8	10	10	SSE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.38	771.6	37	2.8	.....	S	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	65.8	18.8	88	NE	.....	.....	1	.....	1ks	.....	.....	Iaap.	Inap.	.....	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.41	773.2	30.49	774.4	30.4	— 0.9	82	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.49	774.5	30.51	775.0	30.0	— 1.1	89	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	28.77	730.8	28.82	731.9	27.0	— 2.8	89	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faroe)	30.15	765.9	30.19	766.8	41.0	5.0	84	SSE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	30.36	771.2	30.53	775.5	29.1	— 1.6	96	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower cloud; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.71	754.7	30.26	768.7	35.2	1.8	85	ENE	.....	.....	2	.....	5	E	E	0.189	4.8	Cloudy	Collignon, Director.
Amiens, Normal School	30.14	765.6	30.26	768.6	34.5	1.4	93	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	29.98	761.5	30.06	763.5	50.0	10	48	N	.....	.....	1	.....	0	.....	.....	0.024	0.6	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.59	751.6	30.19	766.8	31.6	— 0.2	99	E	.....	.....	1	.....	10	.....	.....	0.236	6.0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.00	762.1	30.31	769.8	29.8	— 1.2	.....	NNE	.....	.....	1	.....	0	.....	.....	0.532	13.50	Clear	Frère Eugene Marie, Dir.
Besançon, Normal School	29.20	741.6	30.13	765.4	32.0	0	100	S	.....	.....	2	.....	10	.....	.....	0.921	23.4	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.22	742.1	30.12	765.0	35.1	1.7	96	W	.....	.....	3	.....	10n	W	W	0.071	1.8	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.89	759.1	30.13	765.3	43.2	6.2	82	ENE	.....	.....	3	.....	8	.....	E	0.010	0.25	.....	M. de Rermaur, Director.
Carcassonne, Normal School	29.70	754.3	30.12	765.1	47.8	8.8	76	E	.....	.....	1	.....	5	W	W	0	0	Cloudy	September, Director.
Caen, Normal School	30.15	765.9	30.23	767.8	39.2	4	63	SW	.....	.....	3	.....	5	.....	W	0	0	Cloudy	M. Lair, Director.
Chartres, Normal School	29.63	752.6	30.23	767.8	31.3	— 0.4	89	N	.....	.....	3	.....	4	.....	NW	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.88	759 0	30.22	767.6	31.3	— 0.4	.....	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.70	729.0	30.12	765.1	34.7	1.5	89	N	.....	.....	1	.....	10	.....	NW	0.244	6.2	Covered	Alluard, Director.
Commercy, Normal School	29.33	744.9	30.23	767.9	31.1	— 0.5	92	NNE	.....	.....	3	.....	10	.....	NNE	0	0	Covered	Dr. Coulet, Director.
Commune de Grésque*	28.93	734.7	30.07	763.7	47.1	8.4	61	S	.....	.....	2	.....	2	.....	SW	0.028	0.7	¼ covered	M. Rina, Director.
Grenoble, Normal School	26.30	744.2	30.10	764.6	37.0	2.8	93	ENE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.95	760.7	30.17	766.4	40.3	4.6	97	NNW	.....	.....	1	.....	5	.....	NNW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.93	760.3	30.26	768.6	35.1	1.7	85	N	.....	.....	3	.....	8	.....	N	0.283	7.2	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.08	738.7	30.04	763 0	32.9	0.5	96	NW	.....	.....	1	.....	10	.....	.....	0.331	8.40	Rain & snow	Baudry, Director.
Lorient, Naval Observatory	30.11	764.7	30.21	767.2	42.1	5.6	87	NE	.....	.....	3	.....	.....	E	NE	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.08	738.7	30.17	766.3	30.6	— 0.8	84	NE	.....	.....	3	.....	kn	.....	SW	0	0	.....	M. Barbier, Director.
Nismes Normal School	29.89	759.2	30.10	764.6	46.0	7.8	61	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.09	637.3	.....	.....	26.2	— 3.2	100	W	.....	.....	3	.....	10	.....	.....	0.110	2.8	Snow & fog	Alluard, Director.
Rochefort, Naval Obs'y	30.15	765.8	30.18	766.6	40.6	4.8	97	NE	.....	.....	1	.....	10	NE	NE	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.20	767.1	30.29	769.3	33.8	1.0	81	ENE	.....	.....	2	.....	0	.....	.....	0.343	8.7	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.21	767.2	30.24	768.0	36.9	2.7	81	SE	.....	.....	2	.....	8	SE	SE	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.08	764.1	30.25	768.3	31.8	— 0.1	72	NE	.....	.....	1	.....	.....	.....	.....	0.591	15.0	.....	L. Renou, Director.
Tarbes, Normal School	29.04	737.5	30.14	765.5	48.2	9	61	S	.....	.....	2	.....	2	WSW	W	0	0	Slightly cl'dy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.35	745.4	30.08	764.1	38.7	3.7	93	NW	.....	.....	1	.....	5	.....	N	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchès.
Lyons, Observatory	.....	.....	30.01	762.3	38 1	3.4	85	WNW	.....	.....	2	.....	9	.....	SSE	0.04	1.	Misty	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.79	629.6	30.10	764.4	35.6	2.0	83	SW	11.2	5.0	.....	.....	8	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.07	763.7	50.0	10.0	74	W	.....	.....	2	.....	10	.....	.....	.....	.....	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.96	761.0	.....	.....	30.6	— 0.8	77	NE	.....	.....	3	.....	0	.....	.....	0.335	8.5	.....	Marié Davy, Director
Perpignan	29.99	761.7	30.10	764.4	52.0	11.1	67	NW	20.6	9.2	.....	.....	2	.....	NW	0.051	1.3	.....	Dr. Fines.
Pic du Midi, (Summit) O. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Brylac.
Pic du Midi (Plantade) O. P.	22.46	570.6	.....	.....	31 6	— 0.2	.....	NNW	.....	.....	2	.....	10	.....	.....	0.701	17.8	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.43	747.6	30.16	766.1	43.9	6.6	88	NW	.....	.....	1	.....	5	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	30.01	762.3	30.21	767 3	35.6	2.0	82	NE	.....	.....	1	.....	10	.....	ENE	0.098	2.5	.....	Cousin-Marquet.
Versailles Observatory	.....	.....	30.24	768.0	32.4	0.2	.....	NE	.....	.....	2	.....	0	.....	.....	0.315	8.01	Clear	Dr. A. Bernay, Director
Zi-Ka-Wei, (near Shanghai)	30.30	769.7	30.33	770.4	37.9	3.3	95	NNE	2.5	1.1	.....	.....	1k	.....	.....	0.028	0.7	Clear	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.40	746.8	30.25	768.4	29.8	— 1.2	76	NE			4		6	NE		0	0		Prof. Dr. Hoh.
Berlin	30.27	768.9	30.46	773.6	27.0	— 2.8	85	N			1		10			0	0		Prof. Arndt.
Breslau	29.81	757.2	30.35	770.8	26 6	— 3.0	84	NNE			1		10					Snowing	Royal University Obs'y
Carlsruhe	29.76	755.9	30.21	767.4	33.1	0.6	75	E			2		10	E		0	0		Albert Senz.
Cassel	29.72	755.0	30.34	770.6	25.9	— 3.4	81	NE			1		4	NW		0	0		Dr. H. Möhl.
Crefeld	30.16	766.1	30.33	770.3	32.0	0.0	73	NE			4		0			0	0		Director Lose.
Emden					30.6	— 0.8	85	E			3		10			0	0		Prof. Prestel.
Frankfort on the Main	29.92	760.0	30.31	769.9	31.8	— 0.1		NNE			2		1			0	0		Physical Society.
Friedrichshafen	28.65	727.7	30.17	766.3	28.0	— 2.2	64	NE			7		9	NE		0	0		M. Wilhelm.
Hamburg	30.43	772.8	30.50	774.7	30.2	— 1.0	88	NW			3		10			0	0		Captain F. Hegemann.
Kiel	30.47	773.8	30.48	774 2	32.2	0.1	84	NE			1		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.32	770.1	30.41	772.4	25.2	— 3.8	77	N			2		10			0	0		Prof. E. Luther.
Köslin			30.39	771.8	26 1	— 3.3		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.99	761.7	30.44	773.2	23.2	— 4.9	93	NE			1		10			0	0	Foggy	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.34	770.6	30.39	771.8	25.9	— 3 4	85	NNW			1		10n					Snowing	Skalweit.
Neufahrwasser	30.44	773.2	30.46	773.6	25 9	— 3.4	76	SSW			2		10			0.008	0.2		A. Lothes.
Posen	30.13	765.2	30.44	773.1	24.8	— 4.0	89	E			5		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.61	752.1	30.19	766.8	32.7	0.4	67	NE			3		3	E		0	0		Imp. University Observatory.
Stuttgart	29.21	741.8	30.20	767.0	31.1	— 0.5	68	E			3		9	E		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.67	728.1	30.26	768.7	29.3	— 1.5	76	ENE	11	5			3k		ESE	0	0	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.46	773.6	30.47	773.9	30.6	— 0.8	89	ENE			2		10ks			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.47	748.4	29.86	758.5	50.7	10.4		NE			1.0							½ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.89	759.2	29.94	760.6	73.4	23.0	43	W					0			0	0	Blue sky	
Deesa	29.42	747.4	29.91	759.7	72.7	22.6	29	W					0			0	0	Blue sky	
Bombay	29.85	758.2	29.89	759.1	77.7	25.4	67	NW	13.0	5.8			3	WNW		0	0	D. clouds	
Poonah	27.88	708.2	29.88	759.1	79.4	26.3		NE					3	W		0	0	Blue sky	
Lahore	29.19	741.5	29.97	761.2	60.6	15.9	40	Calm	0.8	0.4			0			0	0	Blue sky	
Belgaum	27.34	694.4	29.87	758.6	77.7	25.4	34	ESE	6.0	2.7			1			0	0	D. clouds	
Roorkee	29.02	737.1	29.96	760.9	60.8	16.0	40	SW	1.1	0.5			8			0	0	Gloomy	
Agra	29.49	749.0	30.08	763.9	65.8	18.8	49	W					0			0	0		
Nagpur	28.85	732.9	29.91	759.7	74.1	23.4	26	E	1.3	0.6			0			0	0	Blue sky	
Lucknow	29.59	751.6	29.98	761.4	63.4	17.4	47	NW	3.1	1.4			0			0	0	Blue sky	
Allahabad	29.75	755.6	30.07	763.8	61.1	16.2	51	Calm	1.1	0.5			0			0	0	Blue sky	
Patna	29.78	756.4	29.97	761.2	65.2	18.4	65	NW	1.4	0.6			0			0	0	Blue sky	
Hazaribagh	27.88	708.1	29.96	761 0	62.6	17.0	24	NNW	4.3	1.9			0			0	0	Blue sky	
Cuttack	29.89	759.1	29.97	761.2	70.4	21.3	49	Calm	2.1	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.93	760.1	29.95	760.7	63.7	17.6	59	Calm	0	0			1			0	0	D. clouds	
Goalpara					70.0	21.1	65	E	1.3	0.6			0			0	0	Blue sky	
Chittagong	29.83	757.7	29.92	760.1	70.8	21.6	85	Calm	4.6	2.1			0			0	0		
Sibsagar	29.60	751.9	29.95	760.7	64.9	18.3	78	Calm	0.3	0.1			3			0	0	Blue sky	
Jubbulpore	28.56	725.5	29.96	760.8	71.8	22.1	30	NE	1.6	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters: Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,016 ft., or 512.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.70	754.3	30.13	765.2	39.7	4.3	39	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.02	762.5	30.13	765.4	39.4	4.1	49	NE	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.60	751.7	30.14	765.6	38.1	3.4	58	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.19	741.5	30.15	765.7	35.6	2.0	75	NNW	0.7	0.3	.....	.....	10	WSW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.03	711.9	30.02	762.4	32.4	0.2	83	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.89	759.2	30.09	764.2	40.1	4.5	59	N	1.8	0.8	.....	.....	10	W	.....	0.024	0.6	.....	Prof. G. M. Garibaldi.
Florence	29.81	757.1	30.07	763.8	41.9	5.5	48	NE	.....	.....	6	.....	5	.....	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.96	760.9	30.05	763.2	43.9	6.6	51	ENE	12.5	5.6	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.02	762.4	30.07	763.7	37.2	2.9	83	N	9.8	4.4	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.73	755.1	29.91	759.7	48.2	9.0	46	N	9.8	4.4	.....	.....	2	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.67	753.5	29.93	760.1	45.7	7.6	51	NNW	9.8	4.4	.....	.....	4	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.66	753.3	29.85	758.3	51.8	11.0	61	NW	.....	.....	4	.....	2	.....	.....	0.130	3.3	.....	Prof. A. Pacinotti.
Cosenza	29.04	737.6	29.95	760.6	41.9	5.5	78	NW	0	0	.....	.....	10	.....	.....	0.106	2.7	.....	Prof. D. Conti.
Palermo	29.64	752.9	29.90	759.4	52.5	11.4	57	W	10.5	4.7	.....	.....	10	W	.....	0.094	2.4	.....	Prof. G. Cacciatore.
Syracuse	29.83	757.7	29.90	759.5	54.3	12.4	71	WSW	2.5	1.1	.....	.....	10	WNW	.....	0.157	4.0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29 38	746.2	29.93	760.3	46.8	8.2	57	NE	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.17	766.3	30.19	766.8	32.9	0.5	94	N	3.6	1.6	.....	.....	0	.....	.....	0.295	7.49	Clear.	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.98	761.5	30.19	766.8	43.5	6.4	85	NNW	4.4	2.0	.....	.....	0	.....	.....	0.025	0.63	Clear.	S. Takehayashi.
Tokei (Yeddo) Observatory	30.15	765.8	30.22	767.6	32.3	0.2	91	N	5.8	2.6	.....	.....	10n	.....	.....	0.245	6.22	Snowing	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.20	640.0	30.26	768.6	55.4	13.0	59	NE	.....	.....	3	0	8k	.....	E	0	0	Misty	Prof. L. Perez.
Leon	24.61	625.3	30.29	769.5	56.5	13.6	79	SE	.....	.....	2	8c	2k;s	NW	.....	0	0	Very cloudy	Prof. M. Leal.
Mexico, Central Obs'y	23.26	590.8	30.49	774.5	44.2	6.8	84	NE	11.3	5.1	.....	0	9kn	.....	NE	0.04	0.9	Cloudy	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	50.2	10.1	81	NNW	.....	.....	3	0	10kn	.....	NE	Inap.	Inap.	Covered	M. V. de Leon, M. E.
Tlacotalpam	30.33	770.3	30.34	770.6	68.5	20.3	74	N	.....	.....	.....	0	10	.....	N	.....	.....	Rainy	M. M. Cházaro.
San Luis Potosi	24.13	612.9	30.23	767.8	45.0	7.2	51	ESE	.....	.....	1	0	10	.....	E	0.043	1.1	Rainy	G. Barroeta, M. D.
Vera-Cruz	30.36	771.2	30.39	771.9	68.0	20.0	81	N	.....	.....	.....	.....	10n	.....	N	0.039	1.0	Rainy	Prof. J. Rossell.
Zacatecas	22.67	575.7	.....	.....	46.4	8	77	NE	.....	.....	2	9	0	S	.....	0	0	Misty	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.50	597.0	30.26	768.5	45.5	7.5	55	N	13.4	6.0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.45	722.7	30.12	765.2	72.1	22.3	49	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, J. E.
San Juan E. Michapam	30.07	763.8	30.20	767.2	71	21.6	.....	NW	.....	.....	4	7n	3n	NW	NW	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

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

Flushing	30.36	771.2	30.36	771.2	32.0	0.0	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.41	772.4	30.46	773.8	30.2	— 1.0	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.42	772.6	30.42	772.6	30.0	— 1.1	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helleveetsluis	30.35	771.0	30.35	771.0	30.9	— 0.6	92	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.34	770.5	30.38	771.7	32.5	0.3	77	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.43	772.8	30.48	774.2	27.7	— 2.4	75	S	4.0	1.8	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.42	772.7	30.46	773.7	33.8	1.0	81	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.35	771.0	30.52	775.1	17.4	— 8.1	80	ENE	4	2	.....	.....	4	.....	.....	0	0	.....	
Tromsö	30.32	770.2	30.37	771.3	33.1	0.6	96	Calm	0	0	.....	.....	10	.....	.....	0.236	6.0	Snowing.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.84	757.8	30.03	762.8	54 3	12.4	81	W	12.5	5.6	.....	.....	2	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	29.17	741.0	30.23	767.7	48.7	9.3	95	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.10	764.4	30.18	766.6	66.4	19.1	54	SW	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.84	758.0	30.21	767.2	54.3	12.4	73	ENE	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.01	762.2	30.08	764.0	61.2	16.2	59	W	19.2	8.6	.....	.....	4	.....	.....	1.232	5.9	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, (Gulf of Guinea)	.....	.....	29.90	759.5	83.8	28.8	.....	W	.....	.....	2	.....	0	.....	.....	1	W	Blue sky.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Maïjo, Cape Verd Ids.	.....	.....	30.02	762.4	77.0	25.0	.....	N	.....	.....	2	.....	1	.....	N	2	N	Blue sky.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, Saint Paul de Loando	.....	.....	29.78	756.5	86.0	30.0	.....	W	.....	.....	2	.....	6	.....	.....	2	.....	D. clouds....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.02	762.5	62.6	17.0	.....	NE	.....	.....	2	.....	5 *	.....	NE	1	.....	D. clouds.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.88	758 9	30.33	770.4	21.7	— 5.7	96	NNE	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
Wilna	29.88	758.9	30.33	770.4	19.9	— 6.7	84	N	2	1	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	30.12	765.0	30.39	771.8	12.2	—11.0	82	NE	7	3	.....	.....	10n	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	30.37	771.4	30.39	771.8	5.2	—14.9	96	SSE	2	1	.....	.....	10n	.....	.....	.....	.....	Light snow..	Central Physical Obs.
Kieff	29.55	750.6	30.25	768.4	9.3	—12.6	100	N	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow..	Physical Cabinet.
Nikolaiev	30.17	766.4	30.24	768.2	22.6	— 5.2	85	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.10	764.6	30.12	765.1	37.2	2.9	94	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.93	760.1	30.55	776.0	— 1.7	—18.7	89	SSW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.99	761.7	30.21	767.2	27.0	— 2.8	87	SE	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.53	775.4	30.55	775.9	— 4.4	—20.2	79	E	2	1	.....	.....	8ks	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.92	734.5	30.39	771.8	41.9	5.5	67	S	4	2	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.56	776.3	30.48	774.2	24.8	— 4.0	89	ESE	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.48	774.3	30.79	782.1	1.6	—16.9	90	SSE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.97	761.1	31.12	790.5	—22.2	—30.1	60	SE	4	2	.....	.....	1s	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.25	768.3	30.50	774 8	21.6	— 5.8	50	NNE	18	8	.....	.....	2ks	.....	.....	.....	.....	.....	
Tashkend	28.65	727.6	30.44	773.2	36.7	2.6	93	NNW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.41	772.5	31.08	789.3	—46.1	—43.4	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.50	774.8	30.87	784.0	—54.0	—47.8	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Foggy	Marks.
Pekin, (China)	30.15	765.8	30.29	769.4	21.9	— 5.6	87	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.80	757.0	29.89	759.2	— 2.6	—19.2	76	W	11	5	.....	.....	0	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2.165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.98	761.4	30.08	764.1	52.3	11.3	71	SSW	2.3	1.03	.....	.....	8	.....	.....	0.354	9.0	Almost cov'd	Antonio Rave, Director
Bilbao, Met. Obs'y	30.08	763.9	30.13	765.4	56.1	13.4	88	SE	0.9	0.40	.....	.....	10	.....	.....	0.102	2.6	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.18	690.4	.....	.....	46.4	8.0	93	SW	3.3	1.46	.....	.....	10	.....	.....	0	0	Foggy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.92	709.2	.....	.....	43.7	6.5	96	SE	0.9	0.42	.....	.....	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	29.98	761.6	30.13	765.4	69.3	20.7	54	NNW	1.3	0.58	.....	.....	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.17	740.8	30.07	763.8	52.3	11.3	90	SW	7.4	3.3	.....	.....	10	.....	.....	0.075	1.9	Covered.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.01	762.2	30.08	764.0	66.0	18.9	89	Calm	0	0	.....	0	1k	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.82	757.6	29.87	758.9	79.5	26.5	71	E	6.0	2.7	.....	0	0	.....	.....	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	764.0	30.18	766.6	53.2	11.8	95	E	0.9	0.4	.....	0	10	.....	.....	0	0	Foggy	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.98	761.4	30.07	763.7	76.6	24.8	81	E	3.5	1.56	.....	4cs	3k	E	E	0	0	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santia the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.34	770.6	30.38	771.6	15.8	— 9.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.36	771.2	30.41	772.5	14.0	—10.0	94	Calm	.....	.....	6	.....	8	.....	.....	0	0	.....	
Hernosand	30.41	772.4	30.46	773.7	15.8	— 9.0	94	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Stockholm	30.21	767.3	30.39	771.8	18.7	— 7.4	97	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.24	768.3	30.31	769.8	25.9	— 3.4	91	NW	.....	.....	7	.....	10	.....	.....	0.008	0.2	.....	
Sub-Series.																			
Upsala	30.31	769.9	30.39	771.8	20.7	— 6.3	93	NNW	9.6	4.3	.....	.....	10	.....	.....	0.025	0.63	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zürich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.8	30.05	763.2	38.5	3.6	70	S	.....	.....	5	.....	10	.....	.....	0.067	1.7	Covered.....	The Observatory.
Zurich	28.44	722.3	30.17	766.3	27.5	— 2.5	87	E	.....	.....	5	.....	9	.....	.....	0.094	2.4	Snowing.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer, +2.1 cent.; Relative Humidity, —8 per cent.

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

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.4	45.1	7.3	93	NNE	12	5.5	.....	.....	10	.....	NE	0.315	8.0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	29.86	758.5	46.8	8.2	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.79	756.7	29.91	759.6	65.5	18.6	66	N	.....	.....	2	.....	1k	.....	S	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

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

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brockville, Ontario	29.53	750.0	29.86	758.4	17	— 8.3	.....	Calm	0	0	.....	.....	8s	.....	W	0	0	Cloudy.....	Hon. J. Ferguson.
*Chatham, N. B	29.64	752.8	29.71	754.6	8	—13.3	89	W	1	0.4	.....	0	0	.....	.....	0.23	5.8	Clear.....	W. R. Bigg.
Charlottetown, P. E. Island	29.64	752.8	29.68	753.9	16	— 8.9	88	W	15	6.7	.....	0	0	.....	.....	0.650	16.51	Clear.....	G. A. Blair.
Cornwall, Ontario	29.59	751.6	29.89	756.9	18.3	— 7.6	94	W	.....	.....	1	.....	10n	.....	.....	0.03	0.8	Overcast.....	H. J. Cundall, C. E.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	James Smith, M. A.
Esquimault, B. C	30.05	763.3	30.10	764.5	50.3	10.2	79	SW	.....	.....	.....	0	0	.....	.....	.....	.....	....	H. A. Johnson.
*Father Point, Quebec	29.83	757.7	29.85	758.2	6	—14.4	81	NW	25	11.2	.....	8k	2s	SW	NW	0	0	Clear.....	W. H. Bevis.
Fredericton, N. B	29.76	755.9	29.83	757.7	12.3	—10.9	90	NW	5	2.2	.....	0	0	.....	.....	0.45	11.4	Cloudy.....	J. McWilliams.
*Fort Garry Manitoba	29.13	739.9	30.06	763.5	— 8	—22.2	96	S	10	4.5	.....	5k	2n	S	S	0	0	Clear.....	Prof. Harrison.
Granton, Ontario	28.78	731.0	29.96	761.0	16	— 8.9	.....	W	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	James Stewart.
*Halifax, N. S	29.59	751.6	29.73	755.1	18	— 7.8	88	W	13	5.8	.....	0	0	.....	.....	Inap.	Inap.	Overcast.....	James Grant.
Hamilton, Ontario	29.55	750.6	29.95	760.7	15.5	— 9.2	91	SW	.....	.....	1	10cs	0	SW	.....	0.406	10.16	Clear.....	F. Allison, M. A.
Heart's Content, N. F	29.06	738.1	29.09	738.9	30	— 1.1	100	E	.....	.....	1	.....	10	.....	.....	0	0	Cloudy.....	Geo. Dickson, M. A.
*Kingston, Ontario	29.49	749.0	29.85	758.2	17	— 8.3	88	W	3	1.3	.....	10cs	0	Calm	.....	0.25	6.3	Overcast.....	E. Weedon.
Little Glace Bay, N. S	.....	.....	.....	.....	18.6	— 7.4	92	NW	12	5.4	.....	5k	0	W	.....	0	0	Fair	S. Woods, M. A.
Moose Factory, Ontario	30.16	766.1	30.20	767.1	—30.9	—34.9	100	W	.....	.....	1	0	0	.....	.....	0.30	7.6	.....	C. H. Rigby.
*Montreal, Quebec	29.61	752.1	29.82	757.4	22	— 5.6	94	W	5	2.2	.....	.....	10n	.....	.....	0	0	Clear	J. R. Nason.
*Parry Sound, Ontario	29.16	740.7	29.91	759.7	10	—12.2	75	NW	8	3.6	.....	2ck	2ks	W	W	0.14	3.6	Light snow..	C. H. McLeod, C. E.
Peterboro, Ontario	29.06	738.1	29.87	758.7	13.2	—10.4	48	W	.....	.....	.....	0	10ks	.....	.....	0.13	3.3	Fair.....	Rev. R. Mosley.
Port Dover, Ontario	29.22	742.2	29.97	761.2	14	—10.0	93	W	9	4.0	.....	10k	0	W	.....	.....	.....	Overcast..	J. F. Jeffers, B. A.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy.....	H. Morgan.
Port Stanley, Ontario	29.31	744.5	30.01	762.2	15	— 9.4	83	W	.....	.....	.....	.....	10n	.....	W	0	0	.....	Peter Grant.
*Quebec, Quebec	29.49	749.0	29.84	757.9	17	— 8.3	75	W	.....	.....	1	.....	10n	.....	W	0.30	7.6	Cloudy.....	M. Payne.
*Rockliffe, Ontario	29.41	747.0	29.91	759.7	6	—14.4	98	NW	6	2.7	.....	.....	10n	.....	.....	0.03	0.8	Cloudy.....	Capt. Ashe, R. N
St. Andrews, N. B	29.76	755.9	29.81	757.2	16	— 8.9	82	NW	.....	.....	1	0	0	.....	.....	0.15	3.8	Light snow..	W. H. McIntyre.
St. John, N. B	29.68	753.9	29.85	758.2	20	— 6.7	7	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
*Saugeen, Ontario	29.14	740.1	29.90	759.4	18	— 7.8	96	NE	10	4.5	.....	.....	10ks	.....	.....	0.46	11.7	Clear.....	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light snow..	K. Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	R. J. Cole.
*Sydney, C. B	28.57	725.7	29.94	760.5	15.0	—9.4	84	W	15.0	6.7	.....	3cs	4s	W	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Toronto, Ontario	29.47	748.5	29.51	749.5	22	— 5.6	90	W	26	11.6	.....	0	2ks	.....	W	0.17	4.3	Fair.....	T. C. Hill.
Windsor, N. S	29.49	749.0	29.90	759.4	15	— 9.4	87	W	5	2.2	.....	0	10ks	.....	SW	0	0	Cloudy.....	Magnetic Observatory.
Sub-Series.	29.66	753.4	29.75	755.6	19.0	— 7.2	85	W	10	4.5	.....	0	0	.....	.....	0.66	16.8	Clear.....	Prof. John E. Oram.
St. Johns, Newfoundland	.....	.....	.....	.....	31.0	— 0.6	100	S	.....	.....	.....	5	5n	.....	.....	0.20	5.1	Snowing.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'per 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	29.66	753.4	29.91	759.7	10	—12.2	79	Calm	0	0	.....	1cs	Haze	W	.....	0.03	0.8	Clear	
Alpena, Michigan	29.31	744.5	30.00	762.0	14	—10.0	82	N	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Atlanta, Georgia	28.94	735.1	30.15	765.8	30	— 1.1	59	NW	24	10.7	.....	0	Haze	.....	Calm	0.03	0.8	Clear	
Atlantic City, New Jersey	29.90	759.4	29.92	760.0	28	— 2.2	78	N	7	3.1	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Augusta, Georgia	29.83	757.7	30.01	762.2	39	3.9	64	NW	8	3.6	.....	0	5s	.....	NW	0.07	1.8	Fair	
Baltimore, Maryland	29.93	760.2	29.98	761.5	32	0.0	59	NW	6	2.7	.....	2k	5s	NW	NW	0.01	0.3	Fair	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	25	— 3.9	75	N	11	4.9	.....	.....	10s	.....	NW	0.09	2.3	Cloudy	
Bismarck, Dakota	28.06	712.7	29.91	759.7	11	—11.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	29.13	739.9	30.57	776.5	30	— 1.1	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.69	703.3	30.65	778.5	13	—10.6	71	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.72	754.9	29.89	759.2	19	— 7.2	69	W	9	4.0	.....	2cs	Haze	W	Calm	0.04	1.0	Clear	
Brackettville, Texas	29.57	751.1	30.66	778.8	35	1.7	45	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.11	739.4	30.25	768.3	— 8	—22.2	88	SE	22	9.8	.....	0	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.57	776.5	30.64	778.2	43	6.1	59	N	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Buffalo, New York	29.18	741.2	29.92	760.0	17.5	— 8.1	83	SW	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	41	5.0	14	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.54	750.3	29.85	758.2	24	— 4.4	74	S	9	4.0	.....	2k	2s	Calm	Calm	Inap.	Inap.	Fair	
Cairo, Illinois	30.10	764.5	30.53	775.4	17	— 8.3	67	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.54	648.7	30.34	770.6	31	— 0.6	79	NE	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	18	— 7.8	37	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.69	703.3	30.26	768.6	46	7.8	77	E	20	8.9	.....	.....	10s	.....	E	0	0	Cloudy	
Cape Hatteras, N. Carolina	29.83	757.7	29.84	757.9	43	6.1	92	NE	15	6.7	.....	.....	10s	.....	NE	1.64	41.7	Cloudy	
Cape Henry, Virginia	29.93	760.2	29.94	760.5	34	1.1	70	N	22	9.8	.....	.....	10s	.....	NW	0.20	5.1	Cloudy	
Cape Lookout, N. Carolina	29.84	757.9	29.86	758.4	43	6.1	83	NE	24	10.7	.....	.....	10s	.....	NE	0.28	7.1	Cloudy	
Cape May, New Jersey	29.91	759.7	29.94	760.5	28	— 2.2	77	N	10	4.5	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Castroville, Texas	29.86	758.4	30.64	778.2	32	0.0	59	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.85	758.2	29.92	760.0	52	11.1	73	NW	14	6.3	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	28	— 2.2	66	NW	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.52	749.8	30.30	769.6	— 2	—18.9	67	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.55	750.6	30.27	768.8	11	—11.7	60	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Cleveland, Ohio	29.28	743.7	30.06	763.5	18	— 7.8	68	W	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.81	731.8	30.65	778.5	25	— 3.9	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.23	742.4	30.14	765.6	14	—10.0	64	W	8	3.6	.....	8k	0	W	.....	0	0	Fair	
Corpus, Texas	28.69	728.7	30.57	776.5	21	— 6.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	30.16	766.1	30.68	779.3	27	— 2.8	64	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.73	755.1	30.48	774.2	— 7	—21.7	59	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.44	646.2	.....	.....	34	1.1	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.41	747.0	30.70	779.8	23	— 5.0	60	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.80	756.9	30.68	779.3	27	— 2.8	76	NW	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Denver, Colorado	25.03	635.8	30.25	768.3	37	2.8	45	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.52	749.8	30.54	775.7	11	—11.7	76	NW	2	0.9	.....	2cs	0	NW	.....	0	0	Clear	
Detroit, Michigan	29.31	744.5	30.03	762.8	18	— 7.8	68	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.80	706.1	30.37	771.4	8	—13.3	78	W	8	3.6	.....	0	.....	.....	.....	0	0	Clear	
Dubuque, Iowa	29.62	752.3	30.44	773.2	— 9	—22.8	56	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.57	751.1	30.36	771.1	—12	—24.4	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.88	758.9	30.70	779.8	32	0.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.76	755.9	29.84	757.9	19	— 7.2	69	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Edinburg, Texas	.....	.....	.....	.....	40	4.4	56	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	43	6.1	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.22	742.2	29.98	761.5	20	— 6.7	85	W	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.47	748.5	30.20	767.1	4	—15.6	74	NW	16	7.2	.....	2k	0	NW	.....	0.02	0.5	Clear	
Florence, Arizona	28.84	732.5	30.44	773.2	32	0.0	40	E	.....	.....	3	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	26.01	660.6	30.07	763.8	18	— 7.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.64	651.2	30.60	777.2	19	— 7.2	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	30.05	763.3	30.66	778.8	18	— 7.8	76	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.34	745.2	30.75	781.0	25	— 3.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	.....	.....	.....	.....	34	1.1	.....	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.32	719.3	30.46	773.7	22	— 5.6	58	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.36	745.7	30.58	776.7	23	— 5.0	86	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.82	732.0	30.40	774.4	41	5.0	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.55	776.0	30.59	777.0	41	5.0	57	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	29.53	750.0	30.71	780.0	20	— 6.7	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.43	747.5	30.13	765.3	16	— 8.9	83	NW	16	7.2	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Indianapolis, Indiana	29.44	747.8	30.32	770.1	4	—15.6	63	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.63	778.0	30.66	778.8	42	5.6	50	N	27	12.1	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.41	747.0	30.66	778.8	25	— 3.9	87	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.97	761.2	67	13.9	75	NW	14	6.3	.....	.....	10s	.....	NW	0	0	Threatening	
Keokuk, Iowa	29.80	756.9	30.52	775.2	— 7	—21.7	80	W	7	3.1	.....	1c	0	W	.....	0	0	Clear	
Key West, Florida	30.03	762.8	30.07	763.8	69	20.6	95	W	8	3.6	.....	0	2s;fg	.....	W;Calm	0.03	0.8	Foggy	
Kittyhawk North Carolina	29.84	757.9	29.87	758.7	38	3.3	81	N	20	13.0	.....	10cs	0	NE	.....	0.85	21.6	Cloudy	
Knoxville, Tennessee	29.16	740.7	30.23	767.8	25.5	— 3.6	87	NW	2	0.9	.....	Haze	Sm'e	.....	.....	Inap.	Inap.	Hazy	
La Crosse, Wisconsin	29.56	750.8	30.42	772.6	— 7	—21.7	100	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.56	674.6	30.72	780.3	21	— 6.1	85	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.24	768.1	30.62	777.7	34	1.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.64	752.8	30.61	777.5	2	—16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.93	760.2	30.28	769.1	50.5	10.3	30	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.69	754.1	30.31	769.9	10	—12.2	58	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.30	744.2	30.01	762.2	33	0.6	79	W	4	1.8	.....	.....	10ks	.....	Calm	0.20	5.1	Cloudy	
Madison, Wisconsin	29.22	742.2	30.35	770.9	— 7	—21.7	59	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.40	746.7	30.18	766.6	8	—13.3	78	NW	20	8.9	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Mason, Texas	28.97	735.8	30.88	784.3	33	— 0.6	61	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.14	765.5	30.48	774.2	27	— 2.8	77	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.46	748.3	30.28	769.1	— 1	—18.3	70	W	17	7.6	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.36	771.1	30.41	772.4	34	1.1	79	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.07	763.8	30.32	770.1	33	0.6	79	NW	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear	
Morgantown, West Virginia	28.94	735.1	30.03	762.8	33	0.6	71	Calm	0	0	.....	1c	0	SW	.....	0	0	Clear	
Mt. Washington, N. H.	23.26	590.8	29.62	752.3	1	—17.2	72	NW	21	9.4	.....	.....	Fog	.....	NW	0.60	15.2	Foggy	
Nashville, Tennessee	29.76	755.9	30.34	770.6	24	— 4.4	87	NW	16	7.2	.....	0	1s	.....	NW	0	0	Clear	
New Haven, Connecticut	29.80	756.9	29.92	760.0	15	— 9.4	65	NW	1	0.4	.....	5ck	Haze	Calm	Calm	0.01	0.3	Fair	
New London, Connecticut	29.90	759.4	29.95	760.7	19	— 7.2	85	N	2	0.9	.....	2ck	0	W	.....	0.01	0.3	Clear	
New Orleans, Louisiana	30.39	771.9	30.46	773.7	40	4.4	73	NW	14	6.3	.....	2k	0	NW	.....	0	0	Fair	
Newport, Rhode Island	29.85	758.2	29.91	759.7	26	— 3.3	75	NW	4	1.8	.....	0	8ks	.....	W	0.02	0.5	Cloudy	
New York, New York	29.76	755.9	29.95	760.7	24	— 4.4	74	NW	3	1.3	.....	0	5ks;hz	.....	Calm	0	0	Fair	
Norfolk, Virginia	29.88	758.9	29.94	760.5	33	0.6	70	N	16	7.2	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	CLOUDS. Amount. Up'er 0—10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
North Platte, Nebraska	27.32	693.9	30.18	766.6	8	—13.3	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	30.22	767.6	30.26	768.6	44.1	6.7	92	SW	3	1.3	.....	.....	10n	.....	Calm	0.17	4.3	Light rain...	
Omaha, Nebraska	29.26	743.2	30.52	775.2	— 2	—18.9	67	W	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear..	
Oswego, New York	29.55	750.6	29.88	758.9	32	0.0	79	SW	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Pembina, Dakota	29.18	741.2	30.11	764.8	— 5	—20.6	100	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Philadelphia, Pa	29.91	759.7	29.96	761.0	28	— 2.2	77	NW	8	3.6	.....	.....	10ks	.....	NW	0	0	Cloudy.....	
Phœnix, Arizona	29.23	742.4	31.18	792.0	34	1.1	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.80	452.1	30.01	762.2	8	—13.3	11	NW	52	23.3	.....	2cs	0	NW	.....	0	0	Clear.....	
Pioche, Nevada	24.43	620.5	30.20	767.1	20	— 6.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.17	740.9	30.03	762.8	19	— 7.2	69	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Port Huron, Michigan	29.28	743.7	30.00	762.0	15	— 9.4	82	W	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy..	
Portland, Maine	29.82	757.4	29.87	758.7	24	— 4.4	87	W	4	1.8	.....	1k	Haze	Calm	.....	0.10	2.5	Clear.....	
Portland, Oregon	30.33	770.4	30.44	773.2	37.5	3.1	90	S	5	2.2	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy.....	
Prescott, Arizona	25.04	636.0	30.40	772.1	10	—12.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	28.94	735.1	29.80	756.9	29	— 1.7	78	NE	4	1.8	.....	0	8s	.....	NE	0	0	Cloudy.....	
Punta Rassa, Florida	30.03	762.8	30.05	763.3	65	18.3	89	SW	13	5.8	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Red Bluff, California	30.09	764.3	30.48	774.2	32	0.0	90	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	30.51	774.9	30.74	780 8	38	3.3	54	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.24	742.7	29.88	758.9	22	— 5.6	72	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.88	758.9	30.48	774.2	30.5	— 0.8	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear.	
Sacramento, California	30.36	771.1	30.44	773.2	32	0.0	100	N	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear.....	
St. Louis, Missouri	29.88	758.9	30.53	775.4	3	—16.7	73	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.09	764.3	30.11	764.8	46	7.8	69	NW	17	7.6	.....	0	8s	.....	N	0.03	0.8	Clearing.....	
St. Paul, Minnesota	29.43	747.5	30.40	772.1	—12	—24.4	75	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	26.16	664.4	30.49	774.4	19	— 7.2	54	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.95	760.7	30.60	777.2	36	2.2	53	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	30.18	766.6	30.26	768.6	47.0	8.3	34	Calm	0	0	.....	.....	8s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.36	745.7	30.08	764.0	19	— 7.2	85	W	15	6.7	.....	.....	10s	.....	W	0	0	Cloudy.....	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	25	— 3.9	75	NW	8	3.6	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	
San Francisco, California	30.34	770.6	30.41	772.4	44	6.7	83	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.59	599.2	30.13	765.3	11	—11.7	60	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.86	758.4	29.96	761.0	50	10.0	79	NW	14	6.3	.....	.....	10ks	.....	W	0.04	1.0	Cloudy.....	
Shreveport, Louisiana	30.35	770.9	30.59	777.0	31	— 0.6	79	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Silver City, New Mexico	24.30	617.2	30.85	783.6	20	— 6.7	84	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Smithville, North Carolina	29.82	757.4	29.86	758.4	46	7.8	100	NE	6	2.7	.....	.....	Fog	.....	Calm	0.22	5.6	Light rain..	
Springfield, Massachusetts	29.79	756.7	29.94	760.5	9	—12.8	57	Calm	0	0	.....	8c	0	S	.....	0.17	4.3	Fair.....	
Stockton, Texas	27.51	698.7	30.51	774.9	18	— 7.8	84	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.84	757.9	29.89	759.2	23	— 5.0	61	NW	15	6.7	.....	1cs	0	N	.....	0	0	Clear.....	
Toledo, Ohio,	29.36	745.7	30.08	764.0	19	— 7.2	85	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Tucson, Arizona	.....	.....	.....	.....	30	— 1.1	47	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Tybee Island, Georgia	29.92	760.0	29.95	760.7	49	9.4	93	NW	17	7.6	.....	.....	10ks	.....	NW	0	0	Threatening	
Umatilla, Oregon	30.02	762.5	30.55	776.0	31.0	— 0.6	89	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	33	0.6	89	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	29.84	757.9	30.72	780.3	38	3.3	38	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	30.25	768.3	30.54	775.7	33	0.6	89	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear..	
Virginia City, Montana	24.52	622.8	30.00	762.0	23	— 5.0	60	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Visalia, California	30.05	763.3	30.46	773.7	28	— 2.2	88	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	29.88	758.9	30.00	762.0	30	— 1.1	89	NW	3	1.3	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Wickenburg, Arizona	.....	.....	.....	.....	28	— 2.2	77	NW	.....	.....	1	5c	0	W	.....	0	0	Fair.....	
Wilmington, N. Carolina	29.76	755.9	29.81	757.9	44	6.7	92	NE	6	2.7	.....	.....	10n	.....	Calm	0.22	5.6	Light rain..	
Winnemucca, Nevada	26.11	663.2	30.49	774.4	— 4	—20.0	65	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.86	758.4	29.90	759.4	27	— 2.8	66	NW	10	4.5	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy.....	
Yankton, Dakota	28.99	736.3	30.47	773.9	— 5	—20.6	63	E	2	0.9	.....	1cs	0	Calm	.....	0	0	Clear.....	
Yuma, Arizona	30.23	767.8	30.41	772.4	50	10.0	32	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
SUB-SERIES.																			
Fayettville, Ark	28.91	734.3	30.50	774.7	13	—10.6	81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.05	763.3	30.07	763.8	70	21.1	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.19	766.8	30.20	767.1	76	24.4	81	Calm	0	0	.....	2c	2s	Calm	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	79	26.1	.....	E	9.5	4.2	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	79	26.1	87	E	.....	.....	2	4k	6ks	E	.....	0	0	½ clouded...	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.10	764.5	30.16	766.1	—34.5	—36.9	.....	N	10	4.5	.....	2c	2s	N	.....	0	0	Fair.....	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,633 (?) ft., or 496.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,838 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,540 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,739 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,422 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,263 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,485 ft., or 1,975.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,802.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,352 ft., or 1,327.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.86 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
NavyYard,Mare Island,Cal.	30.32	770.1	40	4.4	39	3.9	91	E	16	7.2	.....	....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.38	771.6	36	2.2	36	2.2	80	NW	10	4.5	.....	....	0	.....	.....	.....	.....	.....	.....	Clear	
NavyYard,Portsmouth,N.H	29.80	756.9	44	6.7	12	—11.1	100	SW	2	0.9	.....	....	10?	.....	.....	.....	.....	.....	.....	Clear?.....	
Naval Hospital, Yokohama, Japan *	30.21‡	767.3‡	.....	.....	33.5	0.3	94	N	.....	.....	3	....	10n	.....	N	Inap	Inap.	.....	.....	Snowing.....	
Alliance, Smyrna, Turkey	29.79‡	756.7‡	.....	.....	53	11.7	86	E	.....	.....	0–1	....	10	.....	Calm	.....	.....	.....	.....	Drizzling.....	
Ashuelot. N. 12° 21′, E. 101° 10′	30.02	762.5	86	30.0	83	28.3	79	S	.....	.....	2	....	2	.....	E	.....	.....	Smooth	.....	Fair.....	
Canonicus, New Orleans, La.	30.42	772.6	36	2.2	39	3.9	100	NW	.....	.....	4	....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	29.08	738.6	25	— 3.9	26	— 3.3	100	SW	1	0.4	.....	....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Constitution, Portsmouth, England	30.25‡	768.3‡	.....	.....	37	2.8	90	ENE	14	6.3	.....	....	1	.....	ENE	0	0	.....	.....	Clear.....	
Despatch. Constantinople, Turkey	29.90‡	759.4‡	.....	.....	47	8.3	92	NNE	.....	.....	1	....	10	.....	N	.....	.....	.....	.....	Raining.....	
Essex, S. 40° 02′, W. 56° 36′	29.90	759.4	62	16.7	61	16.1	100	NW	.....	.....	4	....	5	.....	NW	.....	.....	Smooth	NW	Fair	
Franklin, Norfolk, Va.	30.07	763.8	79	26.1	35	1.7	63	NNW	8.4	3.8	.....	....	10	.....	NNW	0.5	13.	.....	.....	Overcast	
Gettysburg, Genoa, Italy	30.01‡	762.2‡	.....	.....	42	5.6	67	NNE	.....	.....	4	....	10	.....	.....	0	0	.....	.....	Overcast.....	
Hartford, Montevideo, Uruguay	29.98	761.5	79	26.1	83	28.3	55	W	9	4.0	.....	....	8	.....	.....	0	0	Smooth	.....	Cloudy.....	
Lackawana, Panama *	29.72‡	754.9‡	.....	.....	78	25.6	95	NW	.....	.....	1	....	5	.....	.....	0	0	Smooth	NW	Cloudy.....	
Michigan, Erie, Pa.	29.99†	761.7†	.....	.....	19	— 7.2	84	W	.....	.....	4	....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy Kobe, Japan *	30.18‡	766.6‡	.....	.....	38	3.3	90	NE	.....	.....	1	....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan	30.20‡	767.1‡	.....	.....	33	0.6	80	NNW	.....	.....	3–4	....	10	.....	NNW	.....	.....	.....	.....	Snowing.....	
New Hampshire, Port Royal, S. C.	29.80†	756.9†	.....	.....	50	10.0	100	WNW	23	10.3	.....	....	10	.....	W	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.00†	762.0†	.....	.....	68	20.0	90	SE	.....	.....	1	....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	30.23	767.8	33	0.6	26	— 3.3	100	Calm	.....	.....	0	....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	32	0.0	90	Calm	.....	.....	0	....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama	29.88‡	758.9‡	.....	.....	77	25.0	100	N	5	2.2	.....	....	8	.....	NW	0.5	13.	Smooth	SE	Cloudy	
Powhatan, Norfolk, Va.	29.96	761.0	36	2.2	36	2.2	61	NNE	7.2	3.2	.....	....	10	.....	SSW	0.2	5.	.....	.....	Cloudy.....	
Quinnebaug, N. 35° 28′, W. 52° 37′	30.00‡	762.0‡	.....	.....	62	16.7	83	SW	.....	.....	5	....	2	.....	SSW	.....	.....	Mod'ate	SSW	Clear	
Ranger. Yokohama, Japan	30.18‡	766 6‡	.....	.....	39	3.9	82	N	.....	.....	2	....	10	.....	Calm	.....	.....	Smooth	.....	Snowing.....	
Richmond, N. 34° 55′, W. 50° 16′	30.09‡	764.3‡	.....	.....	59	15.0	88	SSW	.....	.....	5	....	5	.....	S	.....	.....	Mod'ate	.....	Fair	
Rio Bravo, Brownsville, Texas	29.52	749.8	54	12.2	44	6.7	68	N	.....	.....	1	....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md.	29.97‡	761.2‡	.....	.....	31	— 0.6	.....	NW	.....	.....	1	....	10	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.58	758.9	57	13.9	27	— 2.8	.....	W	.....	.....	1	....	10	.....	WNW	0	0	.....	.....	Cloudy	
Supply, N. 46° 30′, W. 13° 27′	29.85‡	758.2‡	.....	.....	56	13.3	100	SSW	.....	.....	1	....	10	.....	.....	.....	.....	Mod'ate	SW	Misty.....	
Trenton Villafranca, France *	30.01‡	762.2‡	.....	.....	51	10.6	86	SSW	.....	.....	2	....	10	.....	S	0	0	.....	.....	Cloudy	
Tuscarora. Panama	29.89‡	759.2‡	.....	.....	79	26.1	86	WNW	.....	.....	2	....	8	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Wabash. Boston, Mass.	29.95‡	760.7‡	.....	.....	18	— 7.8	84	NW	.....	.....	4	....	0	.....	.....	0	0	.....	.....	Clear.....	
Wyoming. Naples, Italy	30.07	763.8	60	15.6	49	9.4	78	NNE	.....	.....	2–3	....	10	.....	NE	.....	.....	Smooth	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—12.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 20° 00′, W. 105° 33′		30.04*	763.0*	75	23.9	90	NNW			2		5		S		Moderate; Heavy	NNW	Misty	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Grenada, N. 8° 25′, W. 84° 10′		30.10†	764.5†	84	28.9	100	Calm			0		0			0	Smooth		Fine	R. C. Ghest, 1st Officer
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.09	764 3				S			3		10						Drizzling	

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

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Meyer																			J.A.Thompson, 2d Offr
S. S. Gaelic, N. 45° 42′, W. 179° 40′		30.37†	771.4†	44	6.7	84	SSE			6		k;h'z		SW	Blank	High	SE	Squally	Capt. W. H. Ridley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 59′ W. 2° 18′		30.30	769 6	43.2	6.2		E			5		2		W	0	6	W	Hazy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Weld, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 18′, W. 64° 05′		29.81*	757.2*	41	5.0	91	N			6		7		NW	0	Smooth		Cloudy	Captain Sargent.
S. S. Ohio, N. 50° 06′, W. 25° 00′		29.33†	745.0†	51	10.6	??	WSW			5		2		W	Blank	Cross	SW;S	Clear	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian. N. 39° 25′, W. 68° 48′		29.72*	754.9*	33	0.6		NNE			6		10cs		SSW	Blank	Slight	NNW	D. clouds	Capt. W. Richardson.
S. S. Hibernian.																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the cooperation of the Observer named.																			
Schooner Addie Fuller, Orient, Long Island		29.92	760.0	30	—1.1	94	Calm	0	0			8k		Calm	0.35 in. or 9.0 mm.			Cloudy	Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

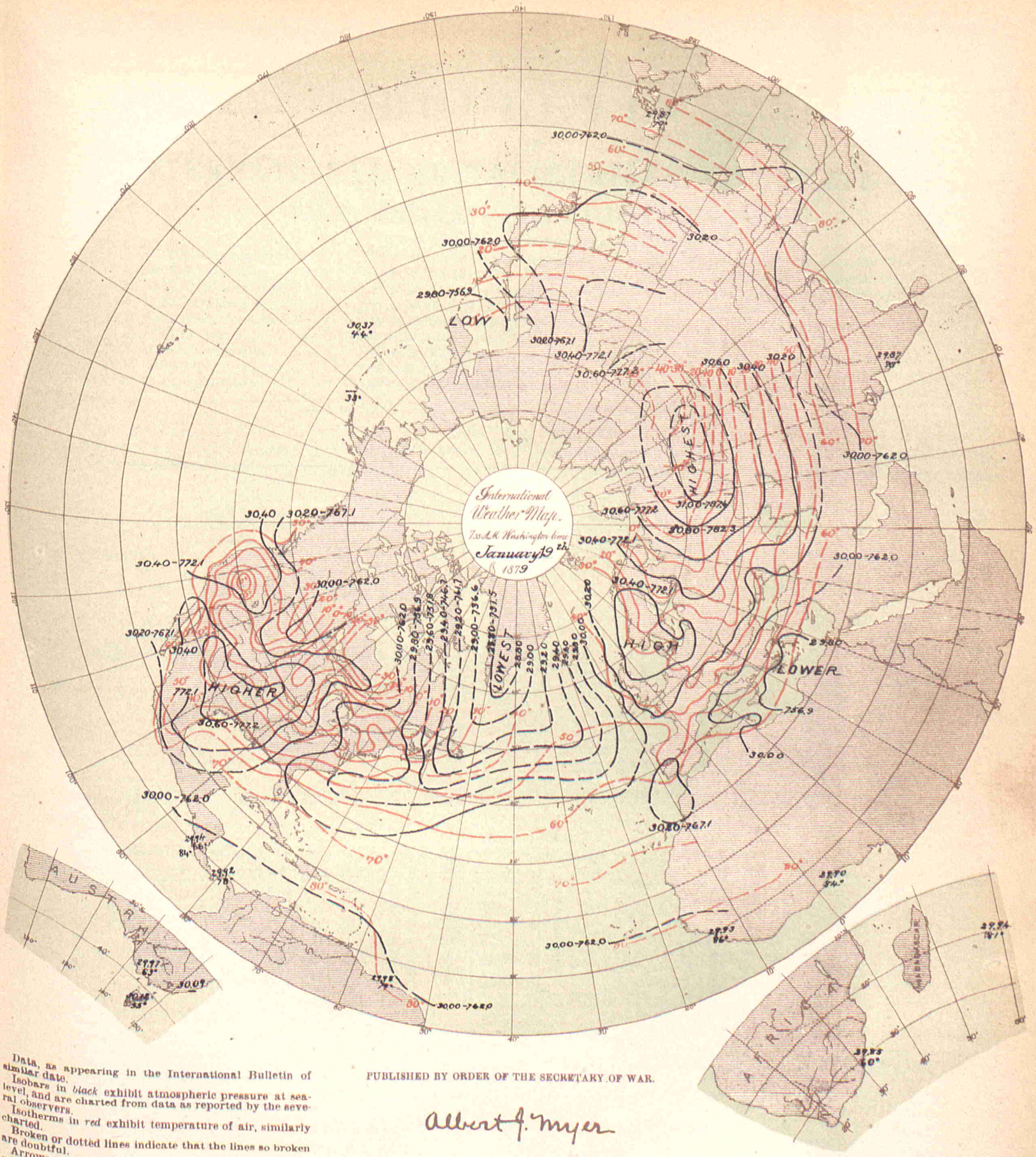
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

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



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 20, 1879.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.24	768.2	61.0	16.1	80	E	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.01	762.2	62.8	17.1	76	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.93	760.3	59.7	15.4	80	NW	.....	.....	2	.....	8	.....	.....	0	0	Cloudy	Touriliere.
La Calle	.....	.....	30.00	761.9	51.8	11.0	83	NNE	.....	.....	5	.....	10	.....	.....	0.079	2.0	Raining	Foufrede.
Tunis	.....	.....	30.09	764.2	49.8	9.9	84	NW	.....	.....	3	.....	10	.....	.....	0.075	1.9	Raining	Jacques.
Sfax	.....	.....	30.13	765.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.98	761.5	64.4	18.0	23	S	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.99	761.7	55.9	13.3	80	NNW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	29.99	761.7	58.3	14.6	91	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	29.98	761.5	65.8	18.8	41	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.00	762.1	66.9	19.4	46	NNW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.63	752.6	30.22	767.5	27.3	— 2.6	84	NE	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.39	746.6	30.22	767.6	22.1	— 5.5	96	N	.....	.....	1	.....	10	.....	.....	0.055	1.4	.....	Dr. Wierzbiski
Eperies	29.20	741.6	30.15	765.7	20.5	— 6.4	74	N	.....	.....	1	.....	8cs;s	.....	.....	0.15+	3.95	.....	Julius Mikolik.
Gratz	28.86	733.0	30.20	767.0	25.2	— 3.8	82	S	.....	.....	3	.....	0	.....	.....	0.008	0.2	.....	Andreas Rospini.
Hermannstadt	28.55	725.2	30.09	764.3	19.4	— 7.0	100	SE	.....	.....	0	.....	2	.....	.....	0.043	1.10	.....	Prof. A. Gottschling.
Kremsmünster	28.78	731.1	30.22	767.5	25.0	— 3.9	89	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.04	737.7	30.11	764.8	19.6	— 6.9	91	NE	.....	.....	1	.....	7	.....	.....	0.055	1.4	.....	Dr. T. Stanecki.
Pola	29.98	761.4	30.10	764.4	35.6	2.0	45	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.63	752.6	30.13	765.4	18.7	— 7.4	92	W	.....	.....	2	.....	10	.....	.....	0	0	Light fog	Julius Csics, S. J.
Szegedin	29.83	757.7	30.17	766.3	23.4	— 4.8	88	N	.....	.....	2	.....	8	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.01	762.3	30.11	764.9	33.1	0.6	85	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.47	748.6	30.24	768.2	23.0	— 5.0	81	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

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

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected or instrum'tal error and temperature. Inches.	Barometer. Corrected or instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.15	765.8	30.25	768.3	35.9	2.2	.....	S	15	6.7	.....	.....	9	.....	.....	0.020	0.51	Overcast.....	W. Boswell.
Ardrossan	30.12	765.0	30.14	765.5	29	— 1.7	.....	NE	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky	George Carrick.
Armagh, Observatory	.....	.....	30.03	762.8	36.9	2.7	.....	SE	19	8.5	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.15	765.8	29.2	— 1.6	.....	ESE	24	10.7	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton	.....	.....	30.17	766.3	27.5	— 2.5	.....	SE	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.80	756.9	30.20	767.1	30.1	— 1.1	.....	SE	.....	.....	5	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.99	761.7	80.6	26.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.22	767.6	32.0	0.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [O.
Cardington	.....	.....	30.30	769.6	31.4	— 0.3	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.10	764.5	30.23	767.8	29.2	— 1.6	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Davis.
Dartmoor	28.46	722.9	29.99	761.7	30.0	— 1.1	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	30.07	763.8	30.11	764.8	35	1.7	.....	SE	.....	.....	7	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.18	766.6	30.21	767.3	29	— 1.7	.....	ESE	.....	.....	4	.....	7	.....	.....	.....	.....	Foggy.....	J. Costello.
Falmouth, Observatory	29.74	755.4	29.98	761.5	38.9	3.8	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.63	701.8	29.95	760.7	69.5	20.8	.....	SE	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	86	30.0	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.79	756.7	39	3.9	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.02	762.5	30.07	763.8	59.6	15.3	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.95	760.7	30.16	766.1	27.8	— 2.3	.....	ENE	.....	.....	5	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	30.27	768.8	30.28	769.1	31	— 0.6	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	30.05	763.3	30.23	767.8	28.7	— 1.8	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, or G. B. Airy
Guernsey	29.83	757.7	30.06	763.5	37	2.8	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.89	759.2	30.02	762.5	40	4.4	.....	SE	.....	.....	6	.....	10n	.....	.....	.....	.....	Rain & sleet	M. P. Moyle.
Holyhead	29.97	761.2	30.00	762.0	34	1.1	.....	E	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.81	757.2	30.11	764.8	35.5	1.9	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	J. Fisher.
Kew, Observatory	30.20	767.1	30.24	768.1	30.2	— 1.0	.....	ESE	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
Leicester, Museum	29.93	760.2	30.21	767.3	30.1	— 1.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.84	757.9	29.91	759.7	50.4	10.2	.....	N	.....	.....	1	.....	6k	.....	.....	.....	.....	D. clouds.....	Sergt. Beckett, A. H. C.
Nairn	30.08	764.0	30.17	766.3	32	0.0	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.20	767.1	60.0	15.6	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.04	763.0	30.25	768.3	29.9	— 1.2	.....	SE	.....	.....	3	.....	10kd	.....	ESE	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.64	752.8	30.20	767.1	28.2	— 2.1	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.20	767.1	29	— 1.7	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.96	761.0	30.03	762.8	37.3	2.9	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.76	755.9	29.80	756.9	43	6.1	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	29.81	757.2	29.97	761.2	39	3.9	.....	ESE	.....	.....	7	.....	10	.....	.....	.....	.....	Misty..	John C. Walker.
Sanduick Manse, (Orkneys)	.....	.....	30.21	767.3	34	1.1	.....	SE	29	13.0	.....	.....	1	.....	.....	.....	.....	D. clouds.. ..	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.90	759.4	36.6	2.6	.....	NNW	.....	.....	2	.....	10	.....	.....	Blank	Blank	Gloomy.....	Sergt. W. H. Lyne.
Sheffield	29.97	761.2	30.27	768.8	30.3	— 0.9	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.13	765.3	30.16	766.1	30.8	— 0.7	.....	SE	.....	.....	6	.....	0	.....	.....	0	0	Blue sky.....	F. H. Redford.
Stonyhurst Observatory	.....	.....	30.18	766.6	29.2	— 1.6	77	E	.....	.....	3	.....	3	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Overcast.....	Rev. C. H. Griffith, F.M.S
Thurso	30.10	764.5	30.16	766.1	34	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	D. clouds.....	[Post Master.
Truro Royal Institution	.....	.....	29.99	761.7	39	3.9	.....	SSE	.....	.....	3	.....	4	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	29.65	753.1	29.67	753.6	45.3	7.4	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.82	757.4	61	16.1	.....	E	.....	.....	3	.....	0	.....	.....	0	0	.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.41	772.4	29.2	— 1.6	76	SE	.....	.....	3	.....	.....	.....	.....	.....	.....	Fine.....	Andrew Gibb.
Mauritius, Observatory	29.69	754.1	29.88	758.8	80.3	26.8	.....	ESE	15.5	6.9	.....	0	5	.....	ESE	0.02	0.5	Fine.....	C. Meldrum.
Melbourne, Observatory	29.75	755.6	29.84	757.9	70.6	21.4	70	ENE	8	3.6	.....	0	.....	.....	.....	0.08	2.0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.01	762 2	35	1.7	70	SE	.....	.....	4	5	5	SE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.32	770.1	38	3.3	.....	S	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
Brig Catherine,	.....	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	64.0	17.8	82	SE	.....	.....	1	1ck	2ks	.....	NE	0.3	8.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

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

Copenhagen	30.26	768.6	30.31	769.8	28.0	— 2.2	85	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.33	770.4	30.35	770.9	25 0	— 3.9	100	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.15	740.4	29.19	741.5	17.6	— 8.0	94	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faroe)	30.17	766.3	30.21	767.2	41.2	5.1	75	S	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	30.19	766.7	30.35	771.0	25.9	— 3.4	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

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

Alençon, Normal School	29.69	754.0	30.24	768.0	31.6	— 0.2	93	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Collignon, Director.
Amiens, Normal School	30.15	765.8	30.27	768.8	25.9	— 3.4	90	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	30.04	763.0	30.12	765.0	43.2	6.2	65	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.65	753.0	30.24	768.1	28.0	— 2.2	66	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	C. Saffiard, Director.
Beauvais, Normal School	29.95	760.8	30.26	768.6	19.9	— 6.7	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Frere Eugene Marie, Dir.
Besançon, Normal School	29.34	745.1	30.28	769.2	28.4	— 2	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.28	743.6	30.19	766.7	31.8	— 0.1	93	N	.....	.....	1	.....	10n	N	N	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet Director.
Brest, Naval Observatory	29.69	754.2	29.94	760.4	35.6	2.0	85	SSE	.....	.....	3	.....	10	.....	SSE	.....	.....	Raining	M. de Rermaur, Director.
Carcassonne, Normal School	29.63	752.6	30.06	763.6	43.2	6.2	58	E	.....	.....	3	.....	5	E	E	0	0	Cloudy	September, Director.
Caen, Normal School	30.04	762.9	30.11	764.9	37.4	3	40	SSE	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Lair, Director.
Chartres, Normal School	29.57	751.1	30.16	766.1	38.3	3.5	90	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.93	760.1	30.27	768.8	28.8	— 1.8	.....	SE	.....	.....	2	.....	8	SE	SE	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.74	730.0	30.15	765.7	38.5	3.6	64	S	.....	.....	1	.....	0	.....	.....	0.031	0.8	Clear	Alluard, Director.
Commercy, Normal School	29.40	746.8	30.32	770.2	25.7	— 3.5	95	ENE	.....	.....	1	.....	10kn	.....	ENE	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.96	735.6	30.10	764.6	43.5	6.4	63	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Kina, Director.
Grenoble, Normal School	29.41	746.9	30.21	767.4	35.6	2.0	79	ENE	.....	.....	1	.....	5k	.....	S	0	0	Cloudy	M. Ablard, Director.
La Rochelle-sur-Yon, N. School	29.89	759.3	30.12	765.1	34.5	1.4	93	NE	.....	.....	1	.....	8	.....	NE	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.83	757.7	30.16	766.0	34.3	1.3	76	SE	.....	.....	1	.....	1	.....	SE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.26	743.1	30.23	767.8	30.0	— 1.1	92	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	29.96	761.0	30.06	763.5	34.9	1.6	85	SE	.....	.....	3	.....	.....	.....	SE	0.039	1.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.16	740.6	30.26	768.5	28.0	— 2.2	92	SW	.....	.....	3	.....	kn	.....	SE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.93	760.1	30.13	765.4	45.3	7.4	64	NE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	23.12	638.1	.....	.....	23.7	— 4.6	100	SW	.....	.....	3	.....	0	.....	.....	0.150	3.8	Clear	Alluard, Director.
Rochefort, Naval Obs'y	30.07	763.7	30.08	763.9	37.9	3.3	80	E	.....	.....	1	.....	10	E	E	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.10	764.5	30.19	766.7	32.4	0.2	78	SSE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.03	762.8	30.07	763.6	35.6	2.0	70	SSE	.....	.....	3	.....	5	SSE	SSE	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.05	763.3	30.22	767.5	28.6	— 1.9	85	E	.....	.....	1	.....	1	.....	E	0	0	Clear	E. Renou, Director.
Tarbes, Normal School	28.96	735.6	30.06	763.4	50.0	10	62	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.45	748.0	30.21	767.3	32.4	0.2	90	NW	.....	.....	2	.....	5	.....	NW	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	761.9	30.02	762.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.08	2.	.....	L'Abbé Marchès.
Lyons, Observatory	.....	.....	30.18	766.6	33.3	0.7	85	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24 51	622.6	29.83	757.6	34.7	1.5	75	S	37.4	16.7	.....	.....	10	.....	.....	0.130	3.3	.....	M. Cave.
Nice	.....	.....	30.06	763.4	49.6	9.8	74	W	.....	.....	2	.....	0	.....	.....	0.071	1.8	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.92	760.0	.....	.....	30.4	— 0.9	80	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	Marié Davy, Director
Perpignan	30.01	762.3	30.12	765.0	46.6	8.1	63	E	3.8	1.7	.....	.....	5	.....	NE	0.008	0.2	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.38	568.5	.....	.....	38.7	3.7	.....	N	.....	.....	2	.....	3	.....	.....	0.508	12.9	Cloudy?	Gen'l de Nansouty.
Toulouse, Observatory	29.32	744.6	30.04	762.9	42.8	6.0	63	SSE	.....	.....	4	.....	7	.....	.....	0	0	.....	M. Mercadier Julier
Tours	29.91	759.8	30.11	764.8	34.9	1.6	85	ESE	.....	.....	1	.....	2	.....	N	0	0	.....	Cousin- arquet.
Versailles Observatory	.....	.....	30.18	766.6	33.4	0.8	.....	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Dr. A. Bergny, Director
Zi-Ka-Wei, (near Shanghai)	30.19	766.7	30.21	767.3	45.9	7.7	88	ESE	15.2	6.8	.....	.....	10	.....	.....	0.008	0.2	Covered	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft., Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.40	746.8	30.25	768.4	23.9	— 4.5	75	NE			3		6	NE		0.012	0.3	Snowing	Prof. Dr. Hoh.
Berlin	30.11	764.8	30.29	769.4	30.9	— 0.6	87	NE			1		10			0.075	1.9		Prof. Arndt.
Breslau	29.72	754.9	30.26	768.5	22.3	— 5.4	82	NW			1		10			0.007	0.18		Royal University Obs'y
Carlsruhe	29.83	757.6	30.28	769.2	27.5	— 2.5	76	NE			1		10	NE		0	0		Albert Senz.
Cassel	29.70	754.4	30.31	769.8	28.0	— 2.2	82	N			2		5	N		0.015	0.38	Snowing	Dr. H. Möhl.
Crefeld	30.13	765.4	30.30	769.5	29.1	— 1.6	75	SE			3		9			0	0		Director Lose.
Emden					29.3	— 1.5	81	SE			0		10			0	0		Prof. Prestel.
Frankfort on the Main	29.94	760.4	30.33	770.3	27.9	— 2.3		ENE			1		10			0.004	0.1		Physical Society.
Friedrichshafen	28.74	730.1	30.28	769.0	25.7	— 3.5	76	NE			5		10			0	0		M. Wilhelm.
Hamburg	30.26	768.7	30.34	770.6	27.7	— 2.4	85	NW			3		10			0.004	0.1	Light snow.	Captain F. Hegemann
Kiel	30.32	770.0	30.34	770.5	27.9	— 2.3	78	NE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.15	765.8	30.24	768.1	24.8	— 4.0	89	SW			1		6			0.008	0.2	Snowing	Prof. E. Luther.
Köslin			30.21	767.3	27.3	— 2.6		Calm			0		1			0.134	3.4		H. Müller.
Leipsic, Observatory	29.88	758.9	30.33	770.3	25.9	— 3.4	91	SW			1		10					Snowing	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.23	767.8	30.28	769.0	17.4	— 8.1	85	N			2		1ks						Skalweit.
Neufahrwasser	30.21	767.3	30.23	767.7	28.2	— 2.1	81	Calm			0		7			0.260	6.6		A. Lothes.
Posen	30.00	761.9	30.31	769.8	24.3	— 4.3	88	NW			2		10			0.075	1.9	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.72	754.9	30.31	769.8	27.7	— 2.4	79	NNE			3		10	E		0	0		Imp. University Observatory.
Stuttgart	29.27	743.4	30.28	769.0	24.8	— 4.0	82	E			1		10			0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.70	729.0	30.32	770.1	24.3	— 4.3	70	Calm	0	0			10					Light snow.	Dr. Van Bebber.
Wustrow, Naval School	30.27	768.9	30.30	769.5	27.9	— 2.3	93	ENE			3		6s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.35	745.6	29.76	755.9	45.1	7.3		NE			2.0							Covered	Dr. J. F. J. Schmidt.

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

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.89	759.3	29.95	760.6	73.2	22.9	50	WSW				1				0	0	D. clouds	
Deesa	29.45	748.0	29.94	760.4	72.8	22.7	17	NW				0				0	0	Blue sky	
Bombay	29.86	758.3	29.89	759.3	76.5	24.7	63	NNW	17.0	7.6		0				0	0	Blue sky	
Poonah	27.85	737.4	29.86	758.3	77.4	25.2		NE				0				0	0	Blue sky	
Lahore	29.21	742.0	29.99	761.7	59.6	15.3	39	Calm	1.1	0.5		0				0	0	Blue sky	
Belgaum	27.33	694.1	29.86	758.4	77.1	25.1	30	Calm	0	0		1				0	0	D. clouds	
Roorkee	29.04	737.5	29.97	761.3	62.8	17.1	47	SE	1.0	0.5		0				0	0	Blue sky	
Agra	29.38	746.3	29.97	761.2	66.8	19.3	46	N				0				0	0		
Nagpur	28.86	732.9	29.91	759.7	74.6	23.7	31	Calm	1.5	0.7		0				0	0	Blue sky	
Lucknow	29.58	751.4	29.97	761.2	64.6	18.1	41	NW	0.4	0.2		0				0	0	Blue sky	
Allahabad	29.64	752.9	29.96	761.1	63.1	17.3	48	Calm	0.4	0.2		0				0	0	Blue sky	
Patna	29.78	756.5	29.97	761.3	68.4	20.2	51	N	0.4	0.2		0				0	0	Blue sky	
Hazaribagh	27.89	708.4	29.96	761.1	63.6	17.6	27	NW	3.3	1.5		0				0	0	Blue sky	
Cuttack	29.84	758.0	29.93	760.1	68.6	20.0	51	NE	1.4	0.6		0				0	0	Blue sky	
Calcutta (Alipore)	29.92	760.0	29.94	760.5	65.2	18.4	66	N	4.0	1.8		0				0	0	Blue sky	
Goalpara					70.4	21.3	58	E	4.0	1.8		0				0	0	Blue sky	
Chittagong	29.82	757.4	29.92	759.8	73.3	22.9	55	W	5.6	2.5		1				0	0	Blue sky	
Sibsagar	29.61	752.1	29.96	760.9	65.3	18.5	78	ENE	0.5	0.2		0				0	0		
Jubbulpore	28.55	725.1	29.94	760.4	72.2	22.3	34	E	2.1	0.9		0				0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal: the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.70	754.3	30.13	765.2	34.0	1.1	64	Calm	0	0			3						Prof. Giovanni Clodig.
Padua	30.00	762.1	30.12	765.0	32.5	0.3	71	NE	11.9	5.3			10	N		0	0		Prof. Dott. Lorenzoni
Milan	29.53	750.0	30.07	763.8	35.4	1.9	65	ESE			2		1			0	0		Prof. Schiaparelli.
Moncalieri	29.09	738.9	30.04	763.1	31.6	— 0.2	92	N	0.7	0.3			0			0	0		Prof. P. F. Denza.
Mondovi	28.06	712.7	30.05	763.3	37.2	2.9	62	NE			2		0			0	0		Prof. D. C. Bruno.
Genoa	29.86	758.5	30.06	763.6	46.8	8.2	49	SE	2.5	1.1			2	W		0	0		Prof. G. M. Garibaldi.
Florence	29.80	757.0	30.07	763.8	41.9	5.5	49	E			2		0			0	0		Cav. F. Meucci
Leghorn	29.95	760.6	30.03	762.8	42.8	6.0	56	ENE	5.6	2.5			0			0	0		Prof. P. Monte.
Pesaro	30.05	763.3	30.10	764.6	36.0	2.2	77	NW	3.1	1.4			10	NW		0.024	0.6		Prof. Luigi Guidi.
Rome	29.82	757.5	30.00	762.1	46.8	8.2	43	N	3.8	1.7			0			0	0		Prof. P. S. Ferrari.
Lecce	29.65	753.1	29.91	759.7	41.7	5.4	77	NNW	24.8	11.1			7	NW		0.024	0.6		Prof. C. De Giorgi.
Cagliari	29.82	757.3	30.01	762.3	51.1	10.6	56	W			2		1	NW		0	0		Prof. A. Pacinotti.
Cosenza	29.03	737.4	29.93	760.3	44.2	6.8	74	NW	0	0			6			0.055	1.4		Prof. D. Conti.
Palermo	29.72	754.9	29.98	761.4	48.4	9.1	62	NNE	2.5	1.1			9	N		0.449	11.4		Prof. G. Cacciatore.
Syracuse	29.87	758.7	29.95	760.6	49.6	9.8	79	SW	2.5	1.1			10	ENE		0.181	4.6		Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.45	748.0	30.00	762.1	45.0	7.2	57	NE	0	0			2			0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.38	771.6	30.40	772.1	36.3	2.4	84	N	6.9	3.1			0			0	0	Clear	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.11	764.8	30.32	770.1	41.2	5.1	82	N	2.1	0.9			0			0	0	Very clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.25	768.3	30.32	770.1	34.0	1.1	82	NNE	4.9	2.2		0	0			0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Cuernavaca																			P. Ceballos.
Guadalajara	25.26	641.7	30.58	776.6	35.6	2.0	39	SW			2	0	1s			0	0	Clear	Prof. L. Perez.
Leon	24.62	625.5	30.41	772.4	40.8	4.9	72	SE			2	0	0			0	0		Prof. M. Leal.
Mexico, Central Obs'y	23.17	588.4	30.56	776.1	33.8	1.0	61	Calm	0	0		0	0			0	0	Fine	The Staff.
Pabellon, (Aguascalientes)					37.6	3.1	41	Calm			0	0	0			0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.45	773.4	30.46	773.7	58.1	14.5	73	W			2	3	5	NE	NW	0.217	5.5	Rainy	M. M. Cházaro.
San Luis Potosi	24.40	619.8	30.54	775.6	32.0	0.0	48	E			1	0	0			0	0		G. Barroeta, M. D.
Vera-Cruz	30.47	773.9	30.50	774.6	59.0	15.0	48	NW			3		10sk			0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.62	574.4			42.8	6	30	SW			3	0	0			0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.50	597.0	30.26	768.5	32.9	0.5	74	ENE	2.7	1.2						0*	0	Clear	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.48	723.4	30.15	765.8	72.9	22.7	49	NE			3		2			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.33	770.5	30.47	773.9	61	16.1		NW			1	7n	3n	NW		0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.6 ft; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

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

Flushing	30.28	769.2	30.28	769.2	31.6	— 0.2		E			2					0	0		
Groningen	30.32	770.1	30.34	771.5	29.7	— 1.3		E			2					0	0		
Helder	30.33	770.3	30.33	770.3	30.0	— 1.1		ENE			2					0	0		
Hellevoetsluis	30.28	769.1	30.28	769.1	27.3	— 2.6	96	E			2								
Utrecht	30.29	769.4	30.34	770.6	27.9	— 2.3	81	ESE			3		8			0	0	Very cloudy	H. v. d. Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.36	771.1	30.41	772.5	24.8	— 4.0	77	S	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	
Bróno	30.50	774.7	30.54	775.7	29.8	— 1.2	59	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiania	30.27	768.8	30.43	772.8	31.1	— 0.5	71	ENE	7	3	.....	.....	9	.....	.....	0	0	.....	
Tromsö	30.53	775.5	30.58	776.6	29.1	— 1.6	84	WSW	4	2	.....	.....	10	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.82	757.5	30.02	762.4	59.4	15.2	91	W	16.1	7.2	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.4	30.12	765.0	50.0	10.0	95	SSW	6.3	2.8	.....	.....	10	SSW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.11	764.9	30.20	767.1	68.2	20.1	68	WSW	3.1	1.4	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.5	30.07	763.6	57.9	14.4	98	SW	11.2	5.0	.....	.....	10	.....	.....	0.236	6.0	.....	The Staff.
Ponta Delgada, (Azores)	30.02	762.6	30.10	764.4	62.6	17.0	80	WSW	20.6	9.2	.....	.....	3	.....	.....	0.185	4.7	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. Bastos, Com'd't.
Quanza, Ajuda, (Gulf of Guinea)	.....	.....	.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. da Silva Costa, Porto Praya, Cape Verd Ids.	2	Var.	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, Saint Paul de Loando	2	.....	D. clouds	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	1	.....	D. clouds	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

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

Warsaw	29.78	756.5	30.24	768.0	23.9	— 4.9	84	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing	Astronomical Obs
Wilna	29.81	757.1	30.26	768.6	20.7	— 6.3	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	30.14	765.6	30.41	772.5	10.2	—12.1	89	ENE	7	3	.....	.....	10n	.....	.....	.....	.....	Light snow	Prof. Dr. Weihrauch.
St. Petersburg	30.48	774.2	30.50	774.6	6.3	—14.3	96	SE	11	5	.....	.....	10n	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Kieff	29.38	746.2	30.06	763.5	21.4	— 5.9	100	N	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow	Physical Cabinet.
Nikolaiev	29.79	756.7	29.86	758.5	30.2	— 1.0	92	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.79	756.6	29.81	757.1	46.8	8.2	94	SSE	4	2	.....	.....	1	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	30.00	762.0	30.62	777.8	2.5	—16.4	90	SE	9	4	.....	.....	10s	.....	.....	.....	.....	Snowing	Meteorological Obs.
Lugan	29.88	759.0	30.10	764.6	22.6	— 5.2	85	ENE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.67	778.1	30.69	779.6	0.1	—17.7	78	ESE	2	1	.....	.....	8k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.79	731.3	30.26	768.7	41.0	5.0	78	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.48	774.2	30.40	772.1	24.1	— 4.4	68	E	20	9	.....	.....	9s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.28	769.2	30.83	783.0	— 2.6	—19.2	63	SE	22	10	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.58	776.8	30.89	784.7	— 2.7	—19.3	68	ESE	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Ekaterinburg	29.94	760.5	31.04	788.5	0.1	—17.7	51	Calm	0	0	.....	.....	4ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.40	772.1	30.60	778.8	9.3	—12.6	54	ENE	18	8	.....	.....	3k	.....	.....	.....	.....	.....	
Tashkend	28.89	733.8	30.74	780.8	24.6	— 4.1	94	N	2	1	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.59	777.0	31.24	793.4	—27.9	—33.3	75	SW	9	4	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.49	774.4	30.84	783.3	—31.2	—35.1	75	SW	4	2	.....	.....	0	.....	.....	.....	.....	Foggy	Marks.
Peking, (China)	30.18	766.5	30.32	770.1	20.5	— 6.4	90	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.96	761.0	30.07	763.7	47.8	8.8	63	ENE	2.7	1.22	.....	.....	10	.....	.....	0.024	0.61	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.90	759.4	29.95	760.8	60.3	15.7	65	SE	1.1	0.48	.....	3	4	SW	.....	0.055	1.4	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.01	686.1	.....	.....	42.8	6.0	94	SW	5.1	2.30	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.2	.....	.....	43.3	6.3	96	SE	0.7	0.33	.....	.....	10	.....	.....	0.035	0.9	Covered	The Staff.
Murcia, Met. Obs'y	29.85	758.3	30.00	762.1	64.9	18.3	66	SW	3.9	1.75	.....	4	3	W	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.04	737.6	29.93	760.3	55.9	13.3	78	SE	4.3	1.9	.....	.....	6	.....	.....	0.142	3.6	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.26	768.5	30.33	770.3	59.0	15.0	70	N	19.2	8.6	.....	0	4k	.....	ENE	0.028	0.7	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.6	29.92	760.0	80.6	27.0	84	NNE	0	0	.....	0	0	.....	.....	0.09	3.1	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.07	763.6	30.16	766.2	58.1	14.5	71	NW	5.5	2.4	.....	3	4	SE	NW	0.012	0.3	.....	.....
San Juan de Porto Rico, W. I.	29.95	760.7	30.04	763.0	72.0	22.2	95	Calm	0	0	.....	4k	2kn	Calm	Calm	0	0	Cloudy	Capt. C. Pujazon, R. N. Dir. Leonardo de Tejeda, Ch't Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santia. the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.59	776.9	30.63	777.9	16.9	— 8.4	.....	NE	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	
Umea	30.48	774.2	30.53	775.5	24.1	— 4.4	100	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	30.48	774.3	30.54	775.6	25.9	— 3.4	95	N	.....	.....	4	.....	10	.....	.....	0.016	0.4	Snowing	
Stockholm	30.17	766.3	30.35	770.8	23.5	— 4.7	93	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.16	766.1	30.22	767.6	27.7	— 2.4	87	E	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.28	769.2	30.36	771.1	23.7	— 4.6	88	NE	11.0	4.9	.....	.....	10	.....	.....	0.020	0.52	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

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

Geneva	28.73	729.8	30.24	768.0	29.8	— 1.2	80	NE	.....	.....	3	.....	10	.....	.....	0.008	0.2	Covered	The Observatory.
Zurich	28.50	724.0	30.28	769.1	25.9	— 3.4	77	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.3 mm.; Thermometer, —2.8 cent.; Relative Humidity, +2 per cent.

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

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.8	36.0	2.2	88	NNW	16	7.0	.....	.....	10	.....	N	0.378	9.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.81	757.1	46.2	7.9	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.83	757.7	29.95	760.7	67.8	19.9	56	SW	.....	.....	3	.....	1k	.....	SW	0.16	4.1	D. clouds	Prof. C. V. A. Van Dyck.

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

CANADIAN SERIES.

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

Bathurst, N. B.	29.60	751.8	29.76	755.9	6.5	—14.2	86	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.66	753.4	30.02	762.5	—13	—25.0	.....	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	W. R. Bigg.
*Chatham, N. B.	29.74	755.4	29.81	757.2	4	—15.6	92	N	13	5.8	.....	.....	10s	.....	N	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island.	29.67	753.6	29.72	754.9	16	— 8.9	93	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.70	754.4	29.92	760.0	— 4.7	—20.4	100	NW	.....	.....	1	.....	10s	.....	.....	0.02	0.5	Overcast	James Smith, M. A.
Dalhousie, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C.	29.83	757.7	29.88	758.9	42.1	5.6	100	Calm	.....	.....	.....	10sc	0	.....	.....	0.14	3.6	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.91	759.7	29.93	760.2	— 2	—18.9	97	S	2	0.9	.....	.....	10n	.....	Calm	.....	.....	Light snow	J. McWilliams.
Fredericton, N. B.	29.73	755.1	29.80	756.9	3.1	—16.1	78	N	5	2.2	.....	10cs	0	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry Manitoba	29.24	742.7	30.20	767.1	—14	—25.6	95	N	4	1.8	.....	0	0	.....	.....	0.150	3.81	Clear	James Stewart.
Granton, Ontario	28.80	731.5	30.00	762.0	9	—12.8	.....	SW	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S.	29.37	746.0	29.51	749.5	16	— 8.9	97	NE	15	6.7	.....	.....	10n	.....	.....	0.060	1.52	Light snow	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.07	763.8	3.3	—15.9	92	NE	.....	.....	1	10cs	0	NE	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F.	29.82	757.4	29.85	758.2	19	— 7.2	100	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.64	752.8	30.02	762.5	—10	—23.3	64	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	S. Woods, M. A.
Little Glace Bay, N. S.	.....	.....	.....	.....	18.8	— 7.3	94	E	24	10.7	.....	.....	10n	.....	Calm	0.20	5.1	Snowing	C. H. Rigby.
Moose Factory, Ontario	29.94	760 5	29.98	761.5	—18.1	—27.8	87	SW	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy	J. R. Nason.
*Montreal, Quebec	29.66	753 4	29.89	759.2	1	—17.2	85	N	5	2.2	.....	8k	2s	NW	.....	0.31	7.9	Light snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.30	744.2	30.13	765.3	—29	—33.9	36	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.11	739.4	29.98	761 5	—17.5	—27.5	100	N	.....	.....	.....	0	0	.....	.....	.....	.....	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	29.94	760.5	10	—12.2	100	Calm	0	0	.....	.....	Haze	.....	.....	0.03	0.8	Hazy	H. Morgan.
Port Hastings, N. S.	29.52	749.8	29.57	751.1	16.9	— 8.4	.....	NE	4	1.8	.....	.....	.....	.....	.....	1.20	30.5	Snowing	Peter Grant.
Port Stanley, Ontario	29.23	742.4	29.94	760 5	9	—12.8	92	W	.....	.....	.....	.....	10n	.....	W	0.07	1.8	Cloudy	M. Payne.
*Quebec, Quebec	29.52	749.8	29.87	758.7	3	—16.1	100	E	.....	.....	7	.....	10n	.....	E	0.35	8.9	Heavy snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.54	750.3	30.09	764.3	—24	—31.1	100	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B.	29.67	753.6	29.72	754.9	7	—13.9	79	NE	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
*Saugeen, Ontario	29.52	749.8	29.70	754.4	6	—14.4	100	W	14	6.3	.....	.....	10n	.....	.....	0.03	0.8	Light snow	G. Murdock, C. E.
Stayner, Ontario	29.24	742 7	30.03	762.8	4	—15.6	92	SE	14	6.3	.....	.....	10s	.....	.....	0.02	0.5	Cloudy	K. Stewart.
Stratford, Ontario	29.17	740 9	30.04	763.0	1	—17.2	91	Calm	0	0	.....	.....	10n	.....	NW	0.08	2.0	Cloudy	R. J. Cole.
*Sydney, C. B.	28.58	725.9	29.99	761 7	6.7	—14.1	93	Calm	0	0	.....	.....	10s	.....	.....	0.10	2.5	Overcast	C. J. MacGregor, M. A.
*Toronto, Ontario	29.68	753.9	29.72	754.9	20	— 6.7	92	NE	7	3.1	.....	.....	10n	.....	.....	0.01	0.3	Light snow	T. C. Hill.
Windsor, N. S.	29.50	749.3	29.59	751.6	15.5	— 9.2	91	N	12	5.4	.....	0	0	.....	.....	.....	.....	Cloudy	Magnetic Observatory.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	18.0	— 7 8	100	NE	.....	.....	.....	Fog	Fog	.....	.....	0.10	2.5	Foggy	Snowing Prof. John E Oram. John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.5,

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.59	751.6	29.84	757.9	9	—12.8	78	NW	28	12.5	.....	Haze	5s	.....	Calm	0.09	2.3	Fair	
Alpena, Michigan	29.28	743.7	29.98	761.5	5	—15.0	75	SW	4	1.8	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Atlanta, Georgia	29.01	737.1	30.25	768.3	24	— 4.4	61	W	14	6.3	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Atlantic City, New Jersey	29.83	757.7	29.84	757.9	19	— 7.2	69	NW	18	8.0	.....	5ck	0	W	.....	0	0	Fair	
Augusta, Georgia	30.07	763.8	30.26	768.6	26	— 3.3	51	SW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Baltimore, Maryland	29.96	761.0	30.02	762.5	19	— 7.2	69	W	10	4.5	.....	2k	Haze	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.80	756.9	29.82	757.4	17	— 8.3	83	NW	24	10.7	.....	2ck	2s	W	NW	0	0	Fair	
Bismarck, Dakota	28.06	712.7	29.91	759.7	14	—10.0	100	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.92	734.6	30.35	770.9	32	0.0	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.51	698.7	30.47	773.9	10	—12.2	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.50	749.3	29.66	753.4	21	— 6.1	71	N	17	7.6	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
Brackettville, Texas	29.21	741.9	30.31	769.9	30	— 1.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.97	735.8	30.07	763.8	1	—17.2	100	N	11	4.9	.....	2cs	0	Calm	.....	0	0	Fair	
Brownsville, Texas	30.45	773.4	30.52	775.2	39	3.9	91	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.25	742.9	30.02	762.5	6.5	—14.2	88	SW	3	1.3	.....	.....	10n	.....	W	0.04	1.0	Light snow	
Burkes, Arizona	.....	.....	.....	.....	45	7.2	39	NE	.....	.....	1	5c	0	W	.....	0	0	Fair	
Burlington, Vermont	29.56	750.8	29.87	758.7	4	—15.6	74	N	12	5.4	.....	0	5s	.....	NW	0.03	0.8	Fair	
Cairo, Illinois	29.76	755.9	30.18	766.6	31	— 0.6	69	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.38	641.6	30.18	766.6	35	1.7	61	N	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	21	— 6.1	43	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp o, California	27.58	700.5	30.15	765.8	47	8.3	77	SW	20	8.9	.....	1k	0	SW	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.08	764.0	30.08	764.0	23	— 5.0	60	N	22	9.8	.....	2k	0	N	.....	0.34	8.6	Fair	
Cape Henry, Virginia	29.99	761.7	30.01	762.2	22	— 5.6	58	NW	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.11	764.8	30.13	765.3	23	— 5.0	73	NW	24	10.7	.....	0	0	.....	.....	0.21	5.3	Clear	
Cape May, New Jersey	29.88	758.9	29.91	759.7	19	— 7.2	69	NW	48	21.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.63	752.6	30.40	772.1	30	— 1.1	68	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.22	767.6	30.29	769.4	30	— 1.1	47	NW	8	3.6	.....	0	0	.....	.....	0.04	1.0	Clear	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	29	— 1.7	56	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.16	740.7	29.90	759.4	14	—10.0	82	W	5	2.2	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Cincinnati, Ohio	29.36	745.7	30.06	763.5	16	— 8.9	74	SE	7	3.1	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Cleveland, Ohio	29.29	744.0	30.09	764.3	5	—15.0	75	SE	6	2.7	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Coleman City, Texas	28.53	724.6	30.29	769.4	36	2.2	45	Calm	0	0	.....	8c	0	W	.....	0	0	Fair	
Columbus, Ohio	29.12	739.6	30.03	762.8	10	—12.2	79	SE	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Corpus, Texas	28.41	721.6	30.08	764.0	36	2.2	36	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.89	759.2	30.39	771.9	36	2.2	61	S	8	3.6	.....	1cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.30	744.2	30.00	762.0	7	—13.9	77	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.41	645.4	.....	.....	33	0.6	51	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.08	738.6	30.32	770.1	35	1.7	59	SW	4	1.8	.....	5c	0	NW	.....	0	0	Fair	
Denison, Texas	29.51	749.5	30.35	770.9	36	2.2	61	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	25.00	635.0	30.22	767.6	24	— 4.4	48	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.09	738.9	30.01	762.2	28	— 2.2	77	Calm	0	0	.....	0	2s	.....	W	0	0	Clear	
Detroit, Michigan	29.29	744.0	30.02	762.5	6	—14.4	76	SW	7	3.1	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Dodge City, Kansas	27.65	702.3	30.14	765.5	18	— 7.8	84	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.26	743.2	30.04	763.0	0	—17.8	85	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.24	742.7	29.98	761.5	7	—13.9	88	NW	2	0.9	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Eagle Pass, Texas	29.62	752.3	30.42	772.6	35	1.7	61	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.60	751.8	29.68	753.9	9	—12.8	78	N	19	8.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	24	— 4.4	74	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	46	7.8	52	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.25	742.9	30.02	762.5	12	—11.1	100	SW	11	4.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.20	741.7	29.92	760.0	7	—13.9	88	NW	5	2.2	.....	.....	10n	.....	NW	0.05	1.3	Light snow	
Florence, Arizona	28.65	727.7	30.25	768.3	49	9.4	51	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.83	656.1	29.89	759.2	18	— 7.8	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.43	645.9	30.39	771.9	34	1.1	52	NE	2	0.9	.....	2k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter.	29.71	754.6	30.28	769.1	28	— 2.2	77	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.01	736.8	30.34	770.6	39	3.9	38	W	12	5.4	.....	2cs	2s	W	Calm	0	0	Fair	
Fort Keogh, Montana	.....	.....	.....	.....	31	— 0.6	.....	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	28.09	713.5	30.08	764.0	45	7.2	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.08	738.6	30.26	768.6	31	— 0.6	79	N	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.60	726.4	30.23	767.8	44	6.7	68	SW	6	2.7	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.43	772.9	30.48	774.2	45	7.2	76	W	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Graham, Texas	29.23	742.4	30.36	771.1	30	— 1.1	89	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Grand Haven, Michigan	29.21	741.9	29.91	759.7	8	—13.3	78	E	8	3.6	.....	.....	10n	.....	Calm	0.26	6.6	Light snow	
Indianapolis, Indiana	29.14	740.1	29.98	761.5	15	— 9.4	65	S	17	7.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianola, Texas	30.46	773.7	30.49	774.4	39	3.9	91	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.13	739.9	30.32	770.1	35	1.7	70	W	12	5.4	.....	2c	0	W	.....	0	0	Fair	
Jacksonville, Florida	30.34	770.6	30.37	771.4	33	0.6	42	W	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Keokuk, Iowa	29.32	744.7	29.97	761.2	24	— 4.4	87	W	6	2.7	.....	2c	0	NW	.....	0	0	Clear	
Key West, Florida	30.32	770.1	30.35	770.9	52	11.1	80	N	25	11.2	.....	0	0	.....	.....	0.05	1.3	Clear	
Kittyhawk North Carolina	30.03	762.8	30.05	763.3	20	— 6.7	70	NW	24	10.7	.....	0	0	.....	.....	0.51	13.0	Clear	
Knoxville, Tennessee	29.14	740.1	30.22	767.6	19.5	— 6.9	85	SW	8	3.6	.....	Haze	5ks	.....	NW	0	0	Fair	
La Crosse, Wisconsin	29.17	740.9	29.96	761.0	10	—12.2	79	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.36	669.5	30.52	775.2	27	— 2.8	77	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	30.00	762.0	30.34	771.4	34	1.1	70	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.24	742.7	30.12	765.0	30	— 1.1	68	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.79	756.7	30.13	765.3	53.1	11.7	54	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.43	747.5	30.03	762.8	24	— 4.4	74	S	4	1.8	.....	8c	2s	W	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.37	746.0	30.11	764.8	19	— 7.2	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.87	733.3	29.93	760.2	12	—11.1	80	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.13	739.9	29.88	758.9	15	— 9.4	65	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.70	729.0	30.58	776.7	35	1.7	45	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
Memphis, Tennessee	29.94	760.5	30.28	769.1	32	0.0	79	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.13	739.9	29.92	760.0	8	—13.3	78	W	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Mobile, Alabama	30.42	772.6	30.47	773.9	30	— 1.1	62	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.14	765.5	30.39	771.9	27	— 2.8	72	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.98	736.1	30.10	764.5	22	— 5.6	72	SW	16	7.2	.....	5k	5ks	W	SW	0.03	0.8	Cloudy	
Mt. Washington, N. H.	23.09	586.5	29.45	748.0	4	—15.6	100	NE	25	11.2	.....	.....	10n	.....	NE	1.15	29.2	Light snow	
Nashville, Tennessee	29.59	751.6	30.16	766.1	28	— 2.2	88	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.69	751.8	29.73	755.1	18	— 7.8	74	N	20	8.9	.....	5cs	2s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	29.61	752.1	29.66	753.4	22	— 5.6	79	N	12	5.4	.....	.....	10n	.....	N	0.01	0.3	Light snow	
New Orleans, Louisiana	30.42	772.6	30.48	774.2	39	3.9	55	S	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.57	751.1	29.62	752.3	24	— 4.4	87	NW	20	8.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
New York, New York	29.62	752.3	29.81	757.2	18	— 7.8	69	NW	18	8.0	.....	5ck	2s	NW	Calm	0	0	Fair	
Norfolk, Virginia	30.01	762.2	30.07	763.8	20	— 6.7	70	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.24	691.9	29.97	761.2	23	— 5.0	73	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	33.1	0.6	100	S	2	0.9	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Omaha, Nebraska	28.89	733.8	30.04	763.0	30	— 1.1	68	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.64	752.8	29.98	761.5	11	—11.7	80	NW	9	4.0	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Pembina, Dakota	29.19	741.4	30.13	765.3	— 7	—21.7	100	NW	4	1.8	.....	0	5s	.....	Calm	0.08	2.0	Fair	
Philadelphia, Pa	29.84	757.9	29.89	759.2	17	— 8.3	67	NW	24	10.7	.....	0	1ks	.....	W	0	0	Clear	
Phœnix, Arizona	29.07	738.4	30.97	786.6	39	3.9	38	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.87	453.9	30.08	764.0	14	—10.6	Inap.	NE	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.28	616.7	30.05	763.3	27	— 2.8	53	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	30.10	764.5	9	—12.8	78	W	9	4.0	.....	5ks	2s	W	W	0.01	0.3	Cloudy	
Port Huron, Michigan	29.27	743.4	29.99	761.7	9	—12.8	78	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.63	752.6	29.69	754.1	17	— 8.3	83	NW	16	7.2	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Portland, Oregon	30.05	763.3	30.16	766.1	33.5	0.8	100	NW	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Prescott, Arizona	24.94	660.5	30.30	769.6	10	—12.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.05	737.9	29.91	759.7	28	— 2.2	67	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.38	771.6	30.40	772.1	43	6.1	51	N	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.88	758.9	30.26	768.6	32	0.0	79	N	7	3.1	.....	0	0	.....	.....	0.22	5.6	Clear	
Rio Grande City, Texas	30.29	769.4	30.52	775.2	31	— 0.6	79	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.34	745.2	30.01	762.2	8	—13.3	78	W	14	6.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Roseburg, Oregon	29.58	751.3	30.18	766.6	30.7	— 0.8	98	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
Sacramento, California	30.13	765.3	30.21	767.3	33	0.6	92	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.44	747.8	30.05	763.3	30	— 1.1	78	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.40	772.1	30.42	772.6	27	— 2.8	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.06	738.1	29.94	760.5	14	—10.0	82	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	29.99	660.1	30.32	770.1	11	—11.7	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.72	754.9	30.05	770.9	35	1.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.06	763.5	30.14	765.5	50.0	10.0	34	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Sandusky, Ohio	29.33	745.0	30.06	763.5	9	—12.8	78	SW	10	4.5	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Sandy Hook, New Jersey	29.77	756.1	29.80	756.9	19	— 7.2	69	NW	30	13.4	.....	5ck	5ks	NW	NW	0	0	Cloudy	
San Francisco, California	30.09	764.3	30.16	766.1	45.8	7.7	80	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.47	596.1	30.01	762.2	22	— 5.6	58	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.19	766.8	30.29	769.4	39	— 1.1	47	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.15	765.8	30.38	771.6	33	0.6	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.35	618.5	30.84	783.3	25	— 3.9	87	NE	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.20	767.1	30.24	768.1	22	— 5.6	72	NW	4	1.8	.....	0	0	.....	.....	0.21	5.3	Clear	
Springfield, Massachusetts	29.60	751.8	29.74	755.4	19	— 7.2	69	NW	11	4.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Stockton, Texas	27.26	692.4	30.26	768.6	37	2.8	53	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.57	751.1	29.63	752.6	25	— 3.9	62	NE	34	15.2	.....	.....	10s	.....	NE	0.63	16.0	Cloudy	
Toledo, Ohio	29.26	743.2	29.99	761.7	13	—16.1	81	S	7	3.1	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Tucson, Arizona	.....	.....	.....	.....	50	10.0	32	E	5	2.2	.....	0	8s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	30.27	768.8	30.30	769.6	29	— 1.7	45	NW	15	6.7	.....	0	0	.....	.....	0.01	0.3	Clear	
Umatilla, Oregon	29.79	756.7	30.31	769.9	28.0	— 2.2	88	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	41	5.0	91	SW	.....	.....	4	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.52	749.8	30.41	772.4	36	2.2	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.18	766.6	30.46	773.6	33	0.6	61	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.36	618.7	29.84	757.9	20	— 6.7	70	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.83	757.7	30.22	767.6	32	0.0	89	Calm	0	0	.....	0	8s	.....	Calm	0	0	Fair	
Washington, D. C.	29.92	760.0	30.04	763.0	16	— 8.9	83	NW	15	6.7	.....	0	1s	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	69	NE	.....	.....	1	5cs	0	SW	.....	0	0	Fair	
Wilmington, N. Carolina	30.11	764.8	30.19	766.8	23	— 5.0	60	NW	14	6.3	.....	0	0	.....	.....	0.09	2.3	Clear	
Winnemucca, Nevada	25.91	658.1	30.27	768.8	4	—15.6	74	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.53	750.0	29.57	751.1	27	— 2.8	100	NW	16	7.2	.....	.....	10n	.....	NW	0.10	2.5	Heavy snow	
Yankton, Dakota	28.76	730.5	30.11	764.8	28	— 2.2	77	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	30.03	762.8	30.20	767.1	52	11.1	35	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.64	727.4	30.12	765.0	34	1.1	79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.29	769.4	30.31	769.9	59	15.0	66	N	12	5.4	.....	4k	0	N	.....	0.02	0.5	Fair	Chas. Hasselorink.
Kingston, Jamaica, W. I	30.18	766.6	30.19	766.8	76	24.4	86	N	5	2.2	.....	0	2s	.....	N	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.95	760.7	30.03	762.8	78	25.6	.....	NW	31.2	13.9	.....	.....	.....	.....	.....	0	0	Hazy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	81	27.2	78	NE	.....	.....	3	3c	5k	E	.....	0.040	1.02	Fair	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.02	762.5	30.07	763.8	—39.4	—39.4	.....	N	7	3.1	.....	0	2s	.....	N	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,338 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,478.9 (?) m.; Camp Verde, 3,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,757 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,303 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12	765.0	40	4.4	36	2.2	70	E	13	5.8	.....	.....	5?	.....	Calm	0	0	.....	.....	Clear?	
Navy Yard, Pensacola, Fla.	30.48	774.2	30	— 1.1	30	— 1.1	78	W	7	3.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Navy Yard, Portsmouth, N.H	29.80	756.9	53	11.7	18	— 7.8	22	NE?	0?	0?	.....	.....	10?	.....	.....	.....	.....	.....	.....	Clear?	
Naval Hospital, Yokohama, Japan *	30.29‡	769.4‡	.....	.....	37	2.8	71	Calm	.....	.....	0		0	.....	.....	0.07	1.8	.....	.....	Clear.	
Alliance, Smyrna, Turkey	29.79‡	756.7‡	.....	.....	52	11.1	66	Calm	.....	.....	0		10	.....	.....	.....	.....	.....	.....	Misty.	
Ashuelot, N. 9° 46′, E. 103° 51′	30.00	762.0	86	30.0	81	27.2	78	SE	.....	.....	2	.....	2	.....	SSE	.....	.....	Smooth	.....	Fair.	
Canonicus, New Orleans, La.	30.36	771.1	34	1.1	37	2.8	100	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Colorado, New York, N. Y.	29.71	754.6	20	— 6.7	18	— 7.8	100	NW	6	2.7	.....	.....	5	.....	NW	0	0	.....	.....	Clear.	
Constitution, Portsmouth, England	30.09‡	764.3‡	.....	.....	35	1.7	90	E	7	3.1	.....	.....	10	.....	E	.....	.....	.....	.....	Cloudy.	
Despatch, Constantinople, Turkey	29.98‡	761.5‡	.....	.....	38	3.3	90	NNW	.....	.....	3–5	.....	10	.....	NNW	.....	.....	.....	.....	Rain & snow	
Essex, S. 40° 21′, W. 57° 46′	30.00	762.0	64	17.8	61	16.1	94	SE	.....	.....	3	.....	1	.....	SE	.....	.....	Smooth	.....	Clear.	
Franklin, Norfolk, Va.	30.14	765.5	60	15.6	21	— 6.1	86	NW	18	8.0	.....	.....	2	.....	NW	0	0	.....	.....	Clear.	
Gettysburg, Genoa, Italy	29.99‡	761.7‡	.....	.....	49	9.4	63	SE	.....	.....	1–2	.....	5	.....	.....	0	0	.....	.....	D. clouds.	
Hartford, Montevideo, Uruguay	30.02	762.5	78	25.6	80	26.7	66	NW	7.2	3.2	.....	.....	10	.....	.....	0	0	Smooth	.....	Hazy.	
Lackawana, Panama *	29.73‡	755.1‡	.....	.....	77	25.0	100	NW	.....	.....	1	.....	2	.....	.....	Blank	Blank	.....	.....	Fair	
Michigan, Erie, Pa.	30.00†	762.0†	.....	.....	12	—11.1	80	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Light snow.	
Monocacy, Kobe, Japan *	30.36‡	771.1‡	.....	.....	40	4.4	100	NE	.....	.....	0–1	.....	1	.....	NE	.....	.....	.....	.....	Clear.	
Monongehela, Yokohama, Japan	30 27‡	768.8‡	.....	.....	32	0.0	90	WNW	.....	.....	1	.....	0	.....	.....	Blank	Blank	.....	.....	Foggy	
New Hampshire, Port Royal, S. C.	30.33†	770.4†	.....	.....	31	— 0.6	.....	WNW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	69	20.6	80	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.	
Palos, Tientsin, China	30.26	768.6	36	2.2	27	— 2.8	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Misty.	
Passaic, Washington, D. C.	.....	.....	.....	.....	19	— 7.2	84	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.	
Pensacola, Panama	29.92‡	760.0‡	.....	.....	80	26.7	96	NNW	5	2.2	.....	.....	5	.....	NW	0	0	Smooth	NE	Hazy.	
Powhatan, Norfolk, Va.	30.00	762.0	22	— 5.6	22	— 5.6	86	NW	.....	.....	3–4	.....	0	.....	.....	0	0	.....	.....	Clear.	
Quinnebaug, N. 35° 49′, W. 48° 39′	30.05‡	763.3‡	.....	.....	66	18.9	74	SSW	.....	.....	4	.....	8	.....	SSW	.....	.....	Mod'ate	SSW	Cloudy.	
Ranger, Yokohama, Japan	30.20‡	769.4‡	.....	.....	45	7.2	84	W	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.	
Richmond, N. 35° 40′, W. 46 16	30.15‡	765.8‡	.....	.....	64	17.8	83	S	.....	.....	4	.....	10	.....	.....	0.5	13.	Smooth	NW	Fair.	
Rio Bravo, Brownsville, Texas	30.40	772.1	54	12.2	39	3.9	91	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Santee, Annapolis, Md	29.99‡	761.7‡	.....	.....	19	— 7.2	.....	NW	.....	.....	3	.....	.....	.....	.....	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa	29.82	757.4	55	12.8	16	— 8.9	.....	NW	24	10.7	.....	.....	2	.....	NW	0	0	.....	.....	Fair.	
Supply, N. 46° 07′, W. 12° 48′	29.77‡	756.1‡	.....	.....	53	11.7	80	SW	.....	.....	5–6	.....	8	.....	SW	.....	.....	Long	SW	Cloudy.	
Trenton Villafranca, France *	30.05‡	763.3‡	.....	.....	50	10.0	72	SSW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.	
Tuscarora, Panama	29.93‡	760.2‡	.....	.....	78	25.6	86	N	.....	.....	2	.....	5	.....	Calm	0	0	Smooth	.....	Clear.	
Wabash, Boston, Mass.	29.68‡	753.9‡	.....	.....	21	— 6.1	71	NE	7	3.1	.....	.....	10	.....	.....	0	0	.....	.....	Overcast.	
Wyoming, Naples, Italy	30.20	767.1	60	15.6	47	8.3	92	NNE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	.....	Fair.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—12.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 22° 45′, W. 106° 08′		30.06*	763.5*	71	21.7	95	Calm			0		2		Calm		Small	W	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada, N. 7° 10′, W. 80° 15′		30.09†	764.3†	81	27.2	??	NNE			5		k		NNE	0	Short	ENE		Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.92	760.0				SE			2		10		SSE				Drizzling	R. C. Ghest, 1st Officer

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

WHITE STAR LINE MARINE SERIES.

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

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

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

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

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

S. S. Belgic, Capt. L. Myer																			J.A.Thompson, 2d Off
S. S. Gaelic, N. 45° 40′, W. 175° 20′		30.42†	772.7†	45	7.2	92	S			5		k		NE	0	Smooth		Overcast	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 43° 49′ W. 30° 34′		29.45	748.0	54.0	12.2	87	W			8		8		NW	Blank	9	WNW	Stormy	L. Jahns.
S. S. Leipzig, East Godwin, England		30.29	769.4	43.2	6.2		E			4		2		E	0	4	E	Foggy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 43° 4′, W. 59° 23′		29.11*	739.4*	35	1.7	90	E			8		9		E	Blank	Sharp	E	Cloudy	Captain Sargent.
S. S. Ohio, N. 49° 14′, W. 31° 00′		29.03†	737.3†	49	9.4	93	NNW			4		5?		NW	Blank	Heavy	sW;W	Clear†	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian, N. 42° 10′, W. 65° 25′		29.07*	738.4*	26	— 3.3		NNE			8		10s		NNE		Short; chopping	NNE	Snowing	Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller, Orient, Long Island		29.73	755.1	26	—3.3	75	NNW	19	8.5			10k		N	0			Cloudy	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

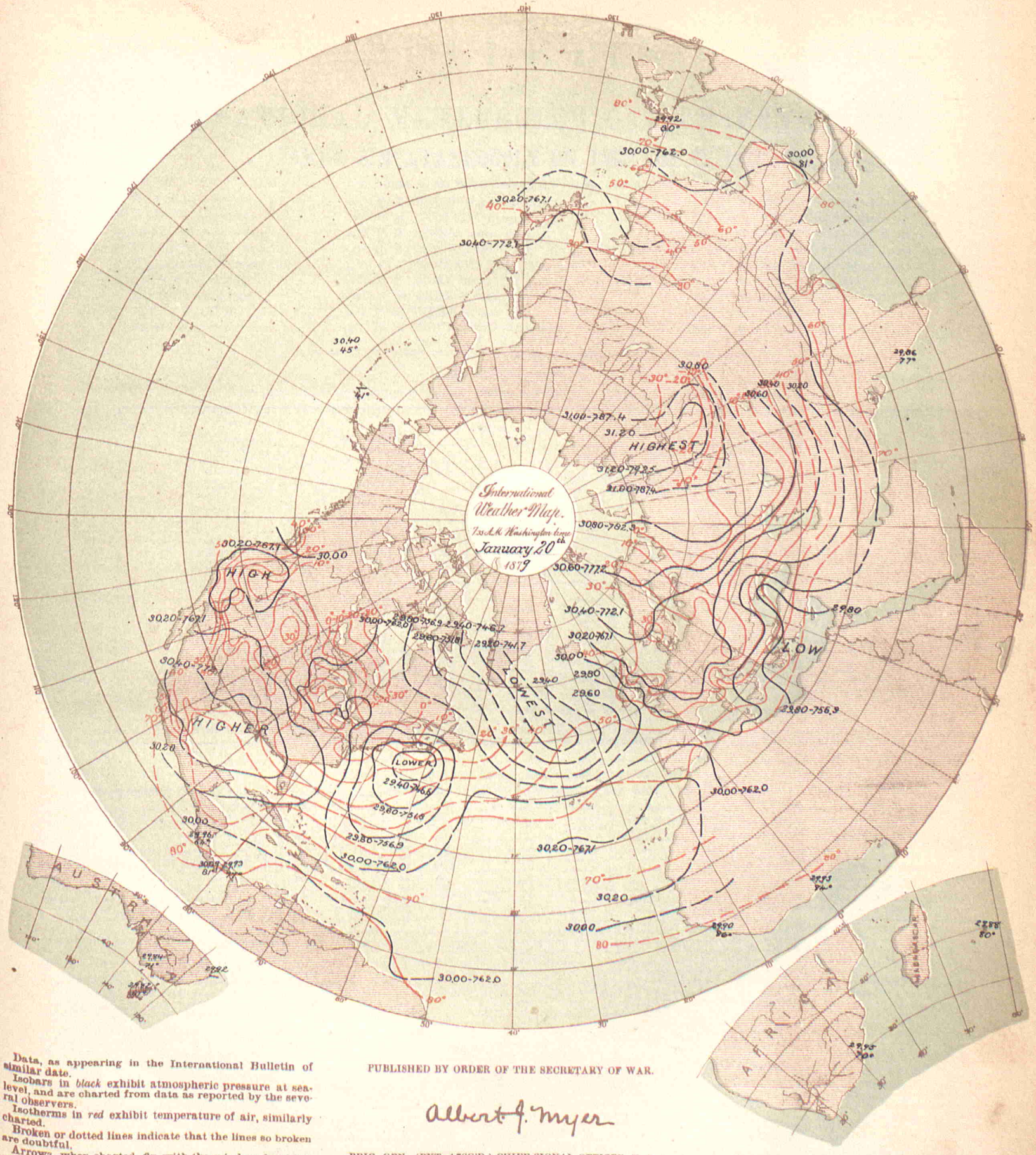
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

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

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

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 21, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	29.95	760.7	60.6	15.9	76	SW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	
Nemours	.....	.....	29.71	754 7	62.1	16.7	75	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.74	755.5	62.6	17.0	67	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.93	760.1	62.6	17.0	70	S	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	29.99	761.7	59.4	15.2	64	SW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.14	765.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.78	756.4	62.2	16.8	80	S	.....	.....	6	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	29.98	761.5	53.2	11.8	56	SSW	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	29.83	757.6	59.9	15.5	100	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	29.90	759.5	53.2	11.8	51	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.93	760.2	63 0	17.2	44	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.57	751.0	30.15	765.9	27.3	— 2.6	87	SW	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.37	745.9	30.19	766.9	19.0	— 7.2	98	SE	.....	.....	1	.....	4	.....	.....	0.004	0.1	.....	Dr. Wierzbiski
Eperies	29.20	741.8	30.15	765.8	21.7	— 5.7	77	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.82	732.0	30.17	766.2	18.7	— 7.4	86	S	.....	.....	3	.....	0	.....	.....	0.004	0.1	.....	Andreas Rospini.
Hermannstadt	28.63	727.3	30.18	766.6	18.0	— 7.8	100	SE	.....	.....	0	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.58	725.9	30.02	762.4	21.2	— 6.0	90	ENE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.0	30.13	765.2	18.9	— 7.3	98	NW	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	Dr. T. Stanecki.
Pola	29.98	761.4	30.10	764.4	36.3	2.4	55	E	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.73	755.1	30.24	768.0	18.5	— 7.5	65	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.90	759.4	30.21	767.3	16.2	— 8.8	.....	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.04	762.9	30.14	765.5	32.7	0.4	92	E	.....	.....	1	.....	10	.....	.....	1.843	46.8	Snowing	P. Busin.
Vienna	29.41	747.0	30.19	766.8	16.2	— 8.8	94	N	.....	.....	1	.....	0	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.10	764.5	30.20	767.1	34.6	1.4	.....	SE	22	9.8	.....	.....	5	.....	.....	0.090	2.29	Squally.....	W. Boswell.
Ardrossan	30.04	763.0	30.06	763.5	35	1.7	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	30.00	762.0	33.0	0 6	.....	E	9	4.0	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.00	762.0	30.7	— 0.7	.....	E	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.02	762.5	29.4	— 1.4	.....	E	18	8.0	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.61	752.1	30.01	762.2	31.1	— 0.5	.....	E	.....	.....	6	.....	7	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	77.0	25.0	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	Gloomy.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.98	761.5	30.0	— 1.1	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds..	H. Todd.
Cardington	.....	.....	30.06	763.5	29.6	— 1.3	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	29.2	— 1.6	.....	SE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Davis.
Dartmoor	28.24	717.3	29.77	756.1	27.0	— 2.8	.....	NE	.....	.....	7	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	29.98	761.5	30.03	762.8	34.0	1.1	.....	E	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.87	758.7	29.90	759.4	29	— 1.7	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.53	750.0	29.77	756.1	36.2	2.3	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.61	701.3	29.94	760.5	75.6	24.2	.....	S	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.66	753.4	29.90	759.4	87	30.6	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.86	758.4	38	3.3	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.71	754.6	29.77	756.1	58.7	14.8	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Drizzling.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.87	758 7	30.08	764.0	34.8	1.6	.....	E	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.99	761.7	30.00	762.0	30	— 1.1	.....	E	.....	.....	5	.....	8	.....	.....	.....	.....	Snowing.....	G. T. Watson.
Greenwich, Royal Obs'ty	29.75	755.6	29.93	760.2	28.4	— 2.0	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.50	749.3	29.74	755.4	36	2.2	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.67	753.6	29.79	756.7	41	5.0	.....	NE	.....	.....	6	.....	2k	.....	.....	0	0	Fair.....	M. P. Moyle.
Holyhead	29.86	758.4	29.92	760.0	34	1.1	.....	E	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.44	747.8	29.75	755.6	31.8	— 0.1	.....	E	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.89	759.2	29.92	760.0	27.7	— 2.4	.....	ENE	16	7.2	.....	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
Leicester, Museum	29.73	755.1	30.00	762.0	30.1	— 1.1	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.13	765.3	30.20	767.1	49.6	9.8	.....	SW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	30.06	763.5	30.16	766.1	35	1.7	.....	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.32	770.1	62.5	16.9	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.82	757.4	30.02	762.5	29.7	— 1.3	.....	ESE	.....	.....	1	.....	10d	.....	ESE	Blank	Blank	Snowing.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.43	747.5	29.98	761.5	28.6	— 1.9	.....	ENE	.....	.....	4–5	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.97	761.2	28	— 2.2	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.70	754.4	29.78	756.4	33.9	1.1	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.79	756.7	29.84	757.9	39	3.9	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Dull.....	W. Kennedy.
Saint Ann's Head	29.68	753.9	29.85	758.2	34	1.1	.....	E	.....	.....	3	.....	4	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys.	.....	.....	30.36	771.1	34.9	1.6	.....	SE	16	7.2	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.99	761.7	32.0	0.0	.....	NNW	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing.....	Sergt. W. H. Lyne.
Sheffield	29.77	756.1	30.06	763.5	30.4	— 0.9	.....	ENE	.....	.....	1	.....	10	.....	.....	0.01	0.3	Overcast.....	W. F. Cooper.
Silloth Rectory	30.12	765.0	30.15	765.8	35.0	1.7	87	SE	.....	.....	6	.....	3	.....	.....	0	0	D. clouds.....	F. H. Redford.
Stonyhurst, Observatory	29.61	752.1	30.02	762.5	31.0	— 0.6	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Strathfield Turgiss	.....	.....	.....	.....	29.3	— 1.5	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. C. H. Griffith, F.M.S.
Thurso	30.16	766.1	30.22	767.6	37	2.8	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro Royal Institution	.....	.....	29.79	756.7	39	3.9	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.88	758.9	29.91	759 7	45.7	7.6	.....	ENE	16	7.2	.....	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.64	752.8	69	20.6	89	N	.....	.....	2	.....	10kn	.....	.....	0	0	Lightning...	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.13	765.3	34.4	1.3	.....	E	.....	.....	2	.....	8k	.....	.....	0.01	0.3	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.61	752.1	29.80	756.8	81.9	27.7	68	ENE	12.0	5.4	.....	1	2	.....	ENE	0.15	3.8	Fine.....	C. Meldrum.
Melbourne, Observatory	29.84	757.9	29.93	760.2	62.0	16.7	75	SW	17	7.6	.....	.....	10	.....	.....	0.71	18.0	Fine.....	P. L. I. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.13	765.3	38	3.3	.....	E	.....	.....	3	.....	5	E	.....	0	0	.....	J. Youngcauise.
North Unst, (Shetland Is.)	.....	.....	30.33	770.4	37	2.8	.....	E	.....	.....	4	5	3	N	.....	0	0	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
H. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	58.6	14.8	89	E	.....	.....	7	.....	8s	.....	NE	Inap.	Inap.	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.12	765.1	30.17	766.3	23.4	— 4.8	90	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.16	766.1	30.18	766.6	23.9	— 4.5	93	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.44	747.7	29.48	748.8	19.8	— 6.8	84	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.32	770.7	30.35	770.9	39.2	4.0	80	SE	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	30.05	763.3	30.22	767.6	19.9	— 6.7	81	NE	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.22	742.3	29.78	756.3	28.4	— 2	92	ESE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.77	756.1	29.89	759.1	26.6	— 3.0	87	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	29.77	756.2	29.85	758.2	45.9	7.7	64	SE	.....	.....	3	.....	10	.....	.....	0.035	0.9	Covered	M. Giraud, Director.
Bar-sur-Seine	29.25	743.0	29.85	758.1	31.1	— 0.5	78	SSE	.....	.....	1	2c	.....	.....	.....	0	0	Slightly cl'dy	C. Saillard, Director.
Beauvais, Normal School	29.57	751.1	29.88	758.9	22.3	— 5.4	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	rère Eugene Marie, Dir.
Besançon, Normal School	29.00	736.6	29.94	760.4	29.3	— 1.5	.....	ENE	.....	.....	2	.....	10	.....	.....	0.12	3.	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.92	734.5	29.82	757.4	36.1	2.3	64	SE	.....	.....	1	.....	10m	W	W	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.35	745.5	29.59	751.6	40.3	4.6	70	NE	.....	.....	2	.....	8	.....	NE	0.148	3.75	.....	M.de Rermaur, Director.
Carcassonne, Normal School	29.32	744.6	29.74	755.3	46.0	7.8	89	E	.....	.....	1	.....	5	E	E	0	0	Cloudy	September, Director.
Caen, Normal School	29.69	754.2	29.77	756.2	30.9	— 0.6	70	ESE	.....	.....	2	.....	10	.....	W	0	0	Covered	M. Lair, Director.
Charires, Normal School	29.21	741.9	29.81	757.2	22.6	— 5.2	81	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.52	749.8	29.85	758.3	31.1	— 0.5	.....	SE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.35	720.0	29.71	754.5	47.5	8.6	57	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Alluard, Director.
Commercy, Normal School	29.04	737.5	29.95	760.7	26.4	— 3.1	96	E	.....	.....	1	2c	.....	.....	E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grèasque*	28.75	730.3	29.59	759.3	42.1	5.6	73	E	.....	.....	4	.....	10	.....	SE	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	29.14	740.2	29.95	760.8	30.6	— 0.8	.....	E	.....	.....	1	.....	10n	SW	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.40	746.8	29.63	752.5	36.7	2.6	69	NNE	.....	.....	1	.....	8	.....	NE	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.48	748.9	29.81	757.2	27.3	— 2.6	96	ESE	.....	.....	4	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.91	734.4	29.87	758.6	34.3	1.3	81	NW	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.55	750.5	29.65	753.0	34.5	1.4	93	SE	.....	.....	4	.....	.....	.....	SE	0.197	5.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.83	732.2	29.91	759.8	23.4	— 4.8	86	SW	.....	.....	3	.....	kn	.....	NE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.65	753.0	29.85	758.3	46.0	7.8	44	SE	.....	.....	3	.....	10	.....	SE	0.16	4.	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.84	631.0	.....	.....	31.5	— 0.3	100	S	.....	.....	3	.....	8	S	.....	0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.59	751.5	29.62	752.3	42.1	5.6	91	ESE	.....	.....	1	.....	10	ESE	ESE	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.73	755.1	29.82	757.3	24.1	— 4.4	75	SE	.....	.....	2	.....	5	.....	NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.69	754.1	29.72	754.9	29.3	— 1.5	90	SE	.....	.....	3	.....	8	SE	SE	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.67	753.7	29.84	757.9	24.3	— 4.3	82	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.56	725.3	29.66	753.3	48.2	9	61	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.15	740.3	29.88	758.9	34.9	1.6	89	N	.....	.....	2	.....	5	.....	NE	0	0	Cloudy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.08	2.	.....	L'Abbé Marchési.
Lyons, Observatory	.....	.....	29.83	757.6	36.9	2.7	69	ESE	.....	.....	2	.....	7	.....	.....	0	0	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.71	627.6	30.02	762.6	46.8	8.2	38	ESE	42.5	19.0	.....	.....	6	.....	SW	0.020	0.5	.....	M. Cave.
Nice	.....	.....	30.01	762.3	43.5	6.4	85	N	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.55	750.5	.....	.....	21.9	— 5.6	92	E	.....	.....	3	.....	10	.....	.....	0	0	.....	Marié Davy, Director
Perpignan	29.62	752.3	29.72	755.0	48.2	9.0	81	E	3.8	1.7	.....	.....	7	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit, M. P.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade, M. P.)	22.10	561.5	.....	.....	31.3	— 0.4	.....	NW	.....	.....	3	.....	9	.....	.....	0	0	Cloudy	Gen'l de Nansouty.
Toulouse, Observatory	28.97	735.7	29.68	753.9	47.1	8.4	83	SSE	.....	.....	6	.....	9	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	29.53	750.1	29.73	755.1	33.8	1.0	86	ESE	.....	.....	2	.....	7	.....	SSE	0	0	.....	Cousin-Marquet.
Versailles Observatory	.....	.....	29.81	757.2	22.6	— 5.2	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Light fog	Dr. A. Bernuy, Director
Zi-Ka-Wei, (near Shanghai)	30.03	762.7	30.05	763.3	48.2	9.0	91	NNW	12.1	5.4	.....	.....	10	.....	.....	0.539	13.7	Covered	Marc Debevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet.; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–12	0–10	0–10	Upper From—	Lower. From—	Inches.	Millimeters.		
Bamberg	29.18	741.1	30.02	762.5	23.9	— 4.5	68	SE	.....	.....	5	.....	3	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.98	761.6	30.17	766.3	26.6	— 3.0	86	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.62	752.4	30.15	765.9	20.1	— 6.6	88	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.52	749.8	29.97	761.2	28.4	— 2.0	76	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Albert Senz.
Cassel	29.43	747.5	30.04	763.0	27.1	— 2.7	74	ESE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.82	757.3	29.98	761.4	29.7	— 1.3	56	SE	.....	.....	4	.....	5cs	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	27.5	— 2.5	88	E	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.65	753.2	30.03	762.7	29.3	— 1.5	.....	E	.....	.....	2	.....	2	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.49	723.7	30.02	762.4	23.0	— 5.0	66	NNE	.....	.....	4	.....	10	.....	.....	0.016	0.4	.....	M. Wilhelm.
Hamburg	30.10	764.5	30.17	766.4	22.6	— 5.2	96	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Captain F. Hegemann
Kiel	30.16	766.1	30.18	766.5	28.2	— 2.1	77	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.06	763.4	30.15	765.7	15.6	— 9.1	88	SW	.....	.....	1	.....	10	.....	.....	0.004	0.1	Snowing.....	Prof. E. Luther.
Köslin	.....	.....	30.10	764.5	24.8	— 4.0	.....	S	.....	.....	1	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.72	754.9	30.17	766.3	24.1	— 4.4	88	NE	.....	.....	1	.....	8	.....	.....	0.051	1.3	.....	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.10	764.5	30.15	765.7	15.8	— 9.0	88	N	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Skalweit.
Neufahrwasser	30.14	765.6	30.16	766.0	22.6	— 5.2	83	Calm	.....	.....	0	.....	10	.....	.....	0.043	1.1	Snowing.....	A. Lothes.
Posen	29.89	759.1	30.20	767.0	24.3	— 4.3	91	W	.....	.....	1	.....	10	.....	.....	0.020	0.5	Snowing.....	Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	30.03	762.0	25.7	— 3.5	87	ENE	.....	.....	2	.....	4	S	.....	0	0	.....	Imp. University Observatory.
Stuttgart	28.99	736.3	29.98	761.6	26.6	— 3.0	70	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.47	723.2	30.08	763.9	24.6	— 4.1	66	ESE	11	5	.....	.....	4c	.....	.....	0	0	.....	Dr. Van Bebber.
Wustrow, Naval School	30.12	765.0	30.14	765.6	28.8	— 1.8	98	ENE	.....	.....	1	.....	3s	.....	.....	0.008	0.2	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.: Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.9	30.09	764.2	46.8	8.2	.....	NE	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	762.1	30.06	763.4	76.0	24.4	12	NNE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.50	749.2	29.98	761.6	75.2	24.0	20	N	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.87	758.6	29.90	759.6	76.5	24.7	62	NNW	19.0	8.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.88	708.2	29.89	759.3	77.1	25.1	.....	NE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.31	744.4	30.08	764.1	62.4	16.9	35	NE	0.9	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.35	694.8	29.89	759.1	77.3	25.2	27	Calm	0	0	.....	.....	1	.....	.....	0	0	Blue sky	
Roorkee	29.10	739.0	30.03	762.8	62.6	17.0	33	NW	0.7	0.3	.....	.....	0	.....	.....	0	0	D. clouds.....	
Agra	29.46	748.2	30.04	763.1	66.3	19.1	45	W	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Nagpur	28.89	733.7	29.94	760.5	75.6	24.2	33	Calm	2.0	0.9	.....	.....	0	.....	.....	0	0	.....	
Lucknow	29.62	752.4	30.01	762.3	61.9	16.6	43	NW	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.68	753.9	30.01	762.1	63.9	17.7	53	Calm	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.78	756.5	29.97	761.3	67.4	19.7	55	W	0.3	0.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.92	709.2	30.00	762.0	63.3	17.4	26	NNW	4.4	2.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.88	758.9	29.96	761.0	73.0	22.8	44	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.95	760.7	29.97	761.3	66.8	19.3	64	NNE	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	.....	.....	.....	.....	71.6	22.0	57	Calm	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.90	759.3	29.99	761.8	67.0	19.4	77	ESE	4.7	2.1	.....	.....	10	.....	.....	0	0	Blue sky.....	
Sibsagar	29.61	752.0	29.95	760.8	66.1	18.9	80	ENE	0.6	0.3	.....	.....	0	.....	.....	0	0	Gloomy.....	
Jubbulpore	28.58	726.0	29.97	761.2	74.8	23.8	39	N	2.4	1.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,551 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.70	754.4	30.12	765.1	29.8	— 1.2	90	E	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.02	762.4	30.13	765.3	31.5	— 0.3	64	NE	8.1	3.6	.....	.....	10	S	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.55	750.6	30.10	764.5	32.7	0.4	73	SE	.....	.....	1	.....	10	.....	.....	0.08	0.2	.....	Prof. Schiaparelli.
Moncalieri	29.17	741.0	30.12	765.0	32.5	0.3	87	NE	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.10	713.6	30.07	763.8	27.9	— 2.3	87	W	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.85	758.2	30.05	763.2	35.2	1.8	76	NE	7.4	3.3	.....	.....	10	SW	.....	0.102	2.6	.....	Prof. G. M. Garibaldi.
Florence	29.80	756.9	30.06	763.6	40.1	4.5	51	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.93	760.3	30.02	762.5	42.3	5.7	55	N	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.02	762.5	30.07	763.8	41.0	5.0	64	W	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.89	759.1	30.06	763.6	45.3	7.4	66	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.82	757.3	30.08	763.9	43.9	6.6	50	NNW	8.7	3.9	.....	.....	4	NW	.....	0.016	0.4	.....	Prof. C. De Giorgi.
Cagliari	29.71	754.5	29.90	759.4	55.0	12.8	66	SE	.....	.....	2	.....	4	SE	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.22	742.2	30.13	765.3	43.3	6.3	72	NW	0	0	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.83	757.7	30.09	764.2	52.5	11.4	51	WSW	4.3	1.9	.....	.....	9	.....	.....	0.055	1.4	.....	Prof. G. Cacciatore.
Syracuse	30.06	763.4	30.13	765.4	52.5	11.4	69	NE	2.5	1.1	.....	.....	8	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.55	750.6	30.11	764.7	48.0	8.9	67	NW	0	0	.....	.....	10	.....	.....	0.031	0.8	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.32	770.1	30.34	770.6	42.8	6.0	85	N	3.2	1.4	.....	.....	10n	.....	.....	0.720	18.29	Raining	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.92	759.9	30.12	765.0	56.0	13.3	68	E	23.7	10.6	.....	.....	8s	.....	.....	1.603	40.72	Cloudy.....	S. Takehayashi.
Tokei (Yeddo) Observatory	30.44	773.2	30.51	774.9	36.5	2.5	75	N	4.4	2.0	.....	.....	2s	.....	.....	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9.30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.7	30.41	772.3	38.3	3.5	45	SW	.....	.....	1	0	1s	.....	.....	0	0	Clear.....	Prof. L. Perez.
Leon	24.53	623.2	30.27	769.0	44.5	6.9	70	SW	.....	.....	2	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.4	30.43	772.9	37.8	3.2	65	Calm	0	0	.....	0	0	.....	.....	0	0	Fine.....	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	37.6	3.1	53	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	M. V. de Leon, M. E
Tlacotalpam	30.27	768.8	30.28	769 1	60.4	15.8	90	SW	.....	.....	1	3	5	NE	NE	0.134	3.4	Misty.....	M. M. Cházaro.
San Luis Potosi	24.30	616.3	30.45	773.4	32.4	0.2	46	E	.....	.....	1	0	0	.....	.....	0	0	.....	G. Barroeta, M. D
Vera-Cruz	30.29	769.4	30.32	770.1	60.8	16.0	74	NW	.....	.....	0	.....	10sk	.....	SE	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.53	572.3	.....	.....	48.2	9	53	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.46	596.0	30.23	767.5	33.8	1.0	76	ENE	1.8	0.8	.....	.....	.....	.....	.....	0	0	Clear.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.44	722.5	30.12	765.0	72.1	22.3	57	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.....	R. Banda, C. E.
San Juan E. Michapam	30.27	768.9	30.40	772.3	62	16.7	.....	N	.....	.....	1	7n	3n	.....	.....	0.031	0.8	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.2	29.97	761.2	27.0	— 2.8	.....	E	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.05	763.3	30.11	764.7	27.7	— 2.4	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.1	30.04	763.1	28.6	— 1.9	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.98	761.4	29.98	761.4	25.9	— 3.4	97	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.98	761.4	30.02	762.6	27.9	— 2.3	63	E	.....	.....	4	.....	0	.....	.....	0	0	Clear.....	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.33	770.4	30.39	771.8	29.8	— 1.2	76	S	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	
Bröno	30.54	775.7	30.58	776.7	23.0	— 5.0	52	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiania	30.24	768.2	30.40	772.2	24.1	— 4.4	77	NE	13	6	.....	.....	10	.....	.....	0.004	0.1	.....	
Tromsö	30.57	776.5	30.61	777.6	19.4	— 7.0	83	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 m'n.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.95	760.8	30.15	765.7	54.7	12.6	79	NE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.46	722.8	29.50	749.3	51.3	10.7	90	SSW	21.7	9 7	.....	.....	10	SSW	.....	0.441	11.2	Raining.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.75	755.6	29.84	757.8	64.9	18.3	69	W	13.0	5.8	.....	.....	.....	.....	.....	0.055	1.4	Light rain...	Capt. D. A. de Cunha.
Lisbon, Observatory	29.11	739.3	29.47	748.6	50.7	10.4	87	SSW	3.8	1.7	.....	.....	9	.....	.....	1.287	32.7	.....	The Staff.
Ponta Delgada, (Azores)	30.04	763.1	30.11	764.9	57.9	14.4	57	NW	23.7	10.6	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers per hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 8 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	A, D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	3	W	Misty	.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, N. 14° 13', W. 21° 47'	2	NE	Blue sky	.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, S. 9° 17', E. 12° 57'	3	SW	D. clouds	.....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	0	S	D. clouds	.....	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	29.68	753.8	30.14	765.5	18.1	— 7.7	89	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs
Wilna	29.65	753.1	30.11	764.7	16.9	— 8.4	86	Calm	0	0	.....	.....	6	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	30.05	763.3	30.32	770.2	10.4	—12.0	89	ENE	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Prof. Dr. Weihrauch.
St. Petersburg	30.50	774.6	30.51	775.0	7.7	—13.5	96	ENE	18	8	.....	.....	8cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.34	745.1	30.02	762.5	17.2	— 8.2	91	NNW	4	2	.....	.....	10c;ks	.....	.....	.....	.....	Solar corona.	Physical Cabinet.
Nikolaiev	29.87	758.7	29.94	760.5	21.6	— 5.8	87	NNW	18	8	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Kurdakof.
Kertch	29.80	756.8	29.82	757.3	43.7	6.5	80	ENE	11	5	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.00	761.9	30.61	777.6	5.9	—14.5	69	E	7	3	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.95	760.8	30.18	766.5	16.5	— 8.6	82	E	34	15	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.96	786.3	30.98	786.8	—18.8	—28.2	72	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.63	727.1	30.08	763.9	46.8	8.2	61	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.41	772 5	30.33	770.4	23.0	— 5.0	81	ESE	16	7	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.37	771.5	30.92	785.4	— 2.0	—18.9	69	N	4	2	.....	.....	2s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.66	778.8	30.97	786.7	— 0.2	—17.9	58	SE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.85	758.1	30.95	786.0	— 0.6	—18.1	45	W	7	3	.....	.....	10cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.32	770.0	30.58	776.6	13.3	—10.4	47	NE	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	
Tashkend	29.92	734.6	30.81	782.6	26.6	— 3.0	87	Calm	0	0	.....	.....	6	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.52	775.1	31.15	791.1	—22.9	—30.5	75	SW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.46	773.6	30.80	782.2	—14.6	—25.9	79	SW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
Peking, (China)	30.46	773.6	30.60	777.2	22.8	— 5.1	66	NW	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.00	762.1	30.09	764.3	—16.6	—27.0	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the cooperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.65	753.1	29.76	755 8	52.9	11.6	66	ENE	1.7	0.78	.....	.....	9	.....	.....	0.003	0.08	Almost cov'd	Antonio Rave, Director
Bilbao, Met. Obs'y	29.46	748.2	29.51	749.6	57.0	13.9	68	SE	4.8	2.15	.....	.....	10	.....	.....	Inap.	Inap.	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.57	674.9	.....	.....	45.9	7.7	84	S	10.9	4.86	.....	.....	10	.....	.....	0	0	Covered.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.36	694.9	.....	.....	44.6	7.0	100	S	5.2	2.33	.....	.....	10	.....	.....	0.244	6.2	Rainy.....	The Staff.
Murcia, Met. Obs'y	29.60	751.9	29.76	755,8	57.7	14.3	81	SW	1.5	0.69	5	5	E	.....	.....	0	0	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.37	720.5	29.26	743.1	47.7	8.7	93	SW	3.1	1.4	.....	.....	10	.....	.....	0.264	6.7	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.29	769 3	30.36	771.1	61.2	16.2	66	NE	6.3	2.8	.....	0	4k;s	.....	ENE	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	759.1	29.94	760.4	79.0	26.1	78	NNE	0	0	.....	.....	9n	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.58	751.3	29.68	753.9	55.6	12.8	92	S	11.2	5.0	.....	0	10	.....	S	1.173	29.8	Raining	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.02	762.4	30.11	764.7	76.3	24.6	87	NE	10.8	4.81	.....	6kn	5kn	NE	NE	1.496	38.00	Overcast.....	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.82	782.8	30.86	783.8	9.0	—12.8	.....	E	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	30.60	777.2	30.65	778.5	10.4	—12.0	93	NE	.....	.....	2	.....	10	.....	.....	0.126	3.2	.....	
Hernosand	30.55	776.0	30.60	777.3	18.0	— 7.8	89	NE	.....	.....	2	.....	10	.....	.....	0.091	2.3	Snowing.....	
Stockholm	30.16	766.0	30.34	770.5	19.8	— 6.8	94	NE	.....	.....	7	.....	10	.....	.....	0.189	4.8	Snowing.....	
Wisby	30.11	764.7	30.17	766.2	22.3	— 5.4	85	ENE	.....	.....	4	.....	10	.....	.....	0.094	2.4	Snowing.....	
Sub-Series.																			
Upsala	30.28	769.1	30.35	771.0	18.7	— 7.4	86	NE	8.1	3.6	.....	.....	10	.....	.....	0.138	3.49	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	723.3	29.99	761.7	27.5	— 2.5	85	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	The Observatory.
Zurich	28.29	718.6	30.04	763.0	23.7	— 4.6	81	E	.....	.....	2	.....	10	.....	.....	0.016	0.4	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.2 mm.; Thermometer, —4.2 cent.; Relative Humidity, +7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.0	32.4	0.2	93	NNW	16	7.0	.....	.....	10	.....	NW	0.236	6.0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.0	43.3	6.3	.....	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'ty	29.83	757.7	29.95	760.6	54.9	12.7	94	SW	.....	.....	3	.....	10n	.....	SW	0.39	9.9	Raining	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.72	754.9	29.79	756.7	— 5.0	—20.6	81	NW	6.7	3.0	.....	0	0	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Brockville, Ontario	29.57	751.1	29.92	760.0	— 4	—20.0	.....	Calm	0	0	.....	.....	10n	.....	W	Inap.	Inap.	Light snow..	W. R. Bigg.
*Chatham, N. B	29.74	755.4	29.81	757.2	—21	—29.4	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	29.73	755.1	29.78	756.4	— 1	—18.3	100	W	4	1.8	.....	0	0	.....	.....	0.500	12.70	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.90	759.4	—10.6	—23.7	100	W	.....	.....	1	0	2s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.83	757.7	29.88	758.9	39.1	3.9	83	Calm	.....	.....	.....	4cs	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.82	757.4	29.85	758.2	— 4	—20.0	82	W	10	4.5	.....	5c	2s	NW	W	0.03	0.8	Fair	J. McWilliams.
Fredericton, N. B	29.84	757.9	29.91	759.7	—11.5	—24.2	100	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.	Prof. Harrison.
*Fort Garry Manitoba	28.69	728.7	29.58	751.3	3	—16.1	95	N	11	4.9	.....	Haze	Haze	.....	.....	0	0	Hazy.....	James Stewart.
Granton, Ontario	28.77	730.7	29.99	761.7	2	—18.9	.....	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.67	753.6	29.82	757.4	5	—15.0	95	W	3	1.3	.....	.....	10ks	.....	NW	0.600	15.24	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.60	751.8	30.00	762.0	10.5	—11.9	82	SW	.....	.....	3	10cs	0	SW	.....	0	0	Overcast....	Geo. Dickson, M. A.
Heart's Content, N. F	29.42	747.2	29.45	748.0	24	— 4.4	100	W	.....	.....	8	0	8ks	.....	W	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.52	749.8	29.88	758.9	0	—12.8	78	SE	10	4.5	.....	.....	10n	.....	SE	0.02	0.5	Light snow..	S. Woods, M. A.
Little Glace Bay, N. S	29.68	753.9	29.72	754.9	11.7	—11.3	92	NW	6	2.7	.....	4k	0	NW	.....	0.80	20.3	Fair.....	C. H. Rigby.
Moose Factory, Ontario	29.91	759.7	29.96	761.0	—40.0	—40.0	.....	Calm	.....	.....	0	0	0	.....	.....	0.05	1.3	Clear.	J. R. Nason.
*Montreal, Quebec	29.73	755.1	29.96	761.0	— 8	—29.2	100	SW	12	5.4	.....	0	2s	.....	.....	Inap	Inap.	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.90	759.4	— 3	—19.4	60	N	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.19	741.4	30.01	762.2	10.7	—11.8	48	Calm	.....	.....	.....	.....	10n	.....	.....	.....	.....	Overcast....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.26	743.2	30.03	762.8	6	—14.4	91	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	3.2	—16.0	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.32	744.7	30.03	762.8	5	—15.0	95	SW	.....	.....	.....	.....	10ks	.....	W	0.07	1.8	Cloudy.....	M. Payne.
*Quebec, Quebec	29.60	751.8	29.96	761.0	—14	—25.6	74	W	.....	.....	1	0	0	.....	.....	0.10	2.5	Clear..	Capt. Ashe, R. N
*Rockliffe, Ontario	29.38	746.2	29.91	759.7	—12	—24.4	100	W	4	1.8	.....	0	5s	.....	W	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.90	759.4	— 1	—18.3	83	NW	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	29.70	754.4	29.88	758.9	— 2	—18.9	100	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.88	758.9	14	—10.0	91	NE	11	4.9	.....	.....	10s	.....	.....	0.20	5.1	Light snow.	K. Stewart.
Stayner, Ontario	29.02	737.1	29.86	758.4	12	—11.1	92	Calm	0	0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow.	R. J. Cole.
Stratford, Ontario	28.64	724.9	29.96	761.0	2.8	—16.2	92	SW	7.5	3.4	.....	.....	8s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.63	752.6	29.68	753.9	13	—10.6	87	W	15	6.7	.....	0	2ks	.....	W	0.48	12.2	Clear.....	T. C. Hill.
*Toronto, Ontario	29.51	749.5	29.93	760.2	11	—11.7	90	W	6	2.7	.....	8ck	2s	W	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.72	754.9	29.82	757.4	2.0	—16.7	86	W	8	3.6	.....	.....	10k	.....	.....	0.72	18.3	Cloudy.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	25.0	— 3.9	87	SW	.....	.....	.....	2k	4s	.....	.....	0.43	10.9	Stormy.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim'rs.	Weather.	Observer.
Albany, New York	29.81	757.2	30.07	763.8	— 5	—20.6	100	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Alpena, Michigan	29.15	740.4	29.84	757.9	16	— 8.9	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.00	736.6	30.18	766.6	44	6.7	52	W	12	5.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.14	765.5	30.15	765.8	13	—10.6	62	NW	6	2.7	.....	8cs	0	.....	W	0	0	Cloudy	
Augusta, Georgia	30.06	763.5	30.24	768.1	41	5.0	57	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.13	765.3	30.18	766.6	21	— 6.1	71	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.12	765.0	30.14	765.5	12	—11.1	80	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	29.78	756.4	29.64	752.8	36	2.2	80	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.73	729.7	30.09	764 3	44	6.7	92	SW	6	2.7	.....	5k	0	.....	Calm	0	0	Fair	
Boise City, Idaho	27.28	692.9	30.24	768.1	13	—10.6	80	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	29.84	757.9	30.01	762.2	3.5	—15.8	60	W	8	3.6	.....	5cs	Haze	Calm	Calm	Inap.	Inap.	Fair	
Brackettville, Texas	29.04	737.6	30.09	764.3	50	10.0	65	SE	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Breckenridge, Minnesota	28.50	723.9	29.49	749.0	33	0.6	70	W	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.19	766.8	30.26	768.6	52	11.1	93	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.24	742.7	30.01	762.2	7.0	—13.9	88	SW	12	5.4	.....	2c	8s	Calm	SW	0.04	1.0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	38	3.3	9	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.69	754.1	30.01	762.2	— 2	—18.9	67	S	7	3.1	.....	2k	2s	Calm	Calm	Inap.	Inap.	Fair	
Cairo, Illinois	29.66	753.4	30.07	763.8	36	2.2	71	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.25	641.3	30.05	763.3	40	4.4	48	N	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	21	— 6.1	43	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.55	699.8	30.12	765.0	26	— 3.3	67	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.21	767.3	30.22	767.6	26	— 3.3	88	NW	1	0.4	.....	1cs	0	W	.....	0	0	Clear	
Cape Henry, Virginia	30.16	766 1	30.18	766.6	25	— 3.9	62	SW	6	2.7	.....	5cs	2s	SW	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	35	1.7	61	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.14	765.5	30.18	766.6	17	— 8.3	83	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.43	747.5	30.18	766.6	35	1.7	80	W	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.20	767.1	30.27	768.8	41	5.0	57	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.97	608.8	29.91	759.7	34	1.1	25	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.14	740.1	29.88	758.9	11	-11.7	100	SW	4	1.8	.....	.....	Fog	.....	.....	0.01	0.3	Foggy	
Cincinnati, Ohio	29.40	746.7	30.10	764.5	21	— 6.1	71	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Cleveland, Ohio	29.28	743 7	30.06	763.5	15	— 9.4	82	S	10	4.5	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Coleman City, Texas	28.35	720.1	30.12	765.0	30	— 1.1	68	Calm	0	0	.....	5c	0	.....	W	0	0	Fair	
Columbus, Ohio	29.16	740.7	30.07	763.8	14	—10.0	64	S	5	2.2	.....	5c	Sm'e	Calm	Calm	0.04	1.0	Fair	
Corpus, Texas	28.20	716.3	29.96	761.0	33	0.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.73	755.1	30.22	767.6	37	2.8	71	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.13	739.9	29.81	757.2	15	— 9.4	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.14	638.5	.....	.....	37	2.8	53	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.95	735.3	30.06	763.5	41	5 0	41	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.30	744.2	30.11	764.8	43	6.1	58	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.72	627.9	29.94	760.5	26	— 3.3	52	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.83	732.3	29.75	755.6	22	— 5.6	86	SW	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Detroit, Michigan	29.23	742.4	29.94	760.5	16	— 8.9	83	SW	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Dodge City, Kansas	27.34	694.4	29.74	755.4	23	— 5.0	86	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.02	737.1	29.77	756.1	8	—13.3	78	SW	6	2.7	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Duluth, Minnesota	28.76	730.5	29.46	748.3	16	— 8.9	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.37	746.0	30.15	765.8	41	5.0	65	Calm	.....	.....	0	5cs	0	.....	Calm	0	0	Fair	
Eastport, Maine	29.84	757.9	29.91	759.7	— 1	—18.3	68	W	13	5.8	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Edinburg, Texas	.....	.....	.....	.....	37	2.8	90	SE	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	47	8.3	48	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.24	742.7	30.01	762.2	16	— 8.9	83	S	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.02	737.1	29.70	754.4	18	— 7.8	84	S	12	5.4	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Florence, Arizona	28.54	724.9	30.14	765.5	45	7.2	53	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.67	652.0	29.73	755.1	19	— 7.2	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.27	641.8	30.23	767.8	31	— 0.6	48	SW	2	0.9	.....	2k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.52	749.8	30.08	764.0	34	1.1	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.85	732.8	30.20	767.1	27	— 2.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	.....	.....	.....	.....	33	0.6	61	S	1	0.4	.....	.....	8s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	27.87	707.9	29 84	757.9	43	6.1	51	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	30.01	762.2	33	0.6	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.40	721.3	30.00	762.0	46	7.8	69	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.26	768.6	30.31	769.9	48	8.9	85	S	4	1.8	.....	5k	0	S	.....	0	0	Fair	
Graham, Texas	29.04	737.6	30.16	766.1	26	— 3.3	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.15	740.4	29.83	757.7	21	— 6.1	71	SE	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
Indianapolis, Indiana	29.15	740.4	29.97	761.2	20	— 6.7	70	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.26	768.6	30.28	769.1	51	10.6	93	SW	2	0.9	.....	8ck	0	SW	.....	0	0	Fair	
Jacksboro, Texas	28.93	734.8	30.11	764.8	37	2.8	53	S	8	3.6	.....	2cs	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.30	769.6	30.32	770.1	41	5.0	57	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.16	740.7	29.80	756.9	26	— 3.3	81	W	8	3.6	.....	1c	0	NW	.....	0	0	Clear	
Key West, Florida	30.36	771.1	30.39	771.9	54	12.2	55	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Kittyhawk North Carolina	30.17	766.3	30.20	767.1	26	— 3.3	63	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.14	740.1	30.20	767.1	31.5	0.3	79	Calm	0	0	.....	0	Sm'e	.....	NW	0	0	Dense smoke	
La Crosse, Wisconsin	28.89	733.8	29.67	753.6	16	— 8.9	83	S	12	5.4	.....	0	2s	.....	Calm	Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.22	666.0	30.36	771.1	27	— 2.8	77	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.77	756.1	30.12	765.0	44	6.7	84	SE	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
Leavenworth, Kansas	29.01	736.8	29.88	758.9	28	— 2.2	88	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.75	755.6	30.10	764.5	48.5	9.2	40	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.46	748.3	30.04	763.0	30	— 1.1	68	SE	3	1.3	.....	.....	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.42	747.2	30.14	765 5	26	— 3.3	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.70	729.0	29.74	755.4	13	—10.6	81	S	8	3.6	.....	.....	8s;fg	.....	SW	0.03	0.8	Cloudy	
Marquette, Michigan	28.90	734.0	29.62	752.3	18	— 7.8	84	SE	5	2.2	.....	.....	10n	.....	Calm	0.16	4.1	Light snow	
Mason, Texas	28.51	724.1	30.33	770.4	45	7.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.83	757.7	30.16	766.1	39	3.9	63	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.04	737.6	29.81	757.2	20	— 6.7	86	S	13	5.8	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Mobile, Alabama	30.30	769.6	30.34	770.6	40	4.4	82	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.04	763.0	30.28	769.1	39	3.9	63	SW	4	1 8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Morgantown, West Virginia	29.03	737.3	30.15	765.8	24	— 4.4	74	S	7	3.1	.....	5cs	5s	Calm	Calm	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	23.13	587.5	29.49	749.0	—18	—27.8	33	NW	25	11.2	.....	2s	0	NW	.....	0.30	7.6	Clear	
Nashville, Tennessee	29.58	751.3	30.14	765.5	38	0.6	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.97	761.2	30.10	764.5	8	—13.3	78	W	1	0.4	.....	2cs	0	Calm	.....	0	0	Clear	
New London, Connecticut	30.00	762.0	30.05	763.3	6	—14 4	64	N	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
New Orleans, Louisiana	30.26	768.6	30.32	770.1	46	7.8	84	SW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Newport, Rhode Island	29.98	761.5	30.03	762.8	9	—12.8	78	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
New York, New York	29.93	760.2	30.11	764.8	7	—13.9	77	SW	6	2.7	.....	1cs	Sm'e	Calm	.....	0	0	Clear	
Norfolk, Virginia	30.12	765.0	30.18	766.6	24	— 4.4	61	S	1	0.4	.....	10c	0	Calm	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER: Correcte for instrum'tal error and temperature.		BAROMETER: Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
	nches.	illimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
North Platte, Nebraska	26.97	685.0	29.70	754.4	16	— 8.9	66	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.89	759.2	29.93	760.2	37.2	2.9	90	S	5	2.2	.....	.....	10	.....	Calm	0.07	1.8	Cloudy	
Omaha, Nebraska	28.63	727.2	29.76	755.9	26	— 3.3	75	S	5	2.2	.....	2c	0	Calm	.....	0	0	Clear	
Oswego, New York	29.64	752.8	29.98	761.5	17	— 8.3	67	SE	6	2.7	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Pembina, Dakota	28.65	727.7	29.55	750.6	5	—15.0	100	N	29	13.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	30.11	764.8	30.17	766.3	17	— 8.3	83	NW	10	4.5	.....	0	2ks	.....	NW	0	0	Fair	
Phœnix, Arizona	28.93	73 .8	30.81	782.6	40	4.4	48	Calm	.....	.....	0	2k	0	SE	.....	0	0	Fair	
Pike's Peak, Colorado	17.76	441.1	29.97	761.2	17	— 8.3	4	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.13	12.9	29.90	759.4	28	— 2.2	54	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.25	742.9	30.13	765.3	15	— 9.4	82	W	12	5.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Port Huron, Michigan	29.22	742.2	29.93	760.2	9	—12.8	78	S	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.90	759.4	29.96	761.0	8	—13.3	78	N	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Portland, Oregon	29.91	759.7	30.02	762.5	45.5	7.5	88	SW	6	2.7	.....	.....	10n	.....	.....	0.22	5.6	Light rain	
Prescott, Arizona	24.78	629.4	30.14	765.5	25	— 3.9	62	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.15	440.4	30.02	762.5	31	— 0.6	68	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.38	771.6	30.40	772.1	44	6.7	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.83	757.7	30.21	767.3	36	2.2	80	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Clear	
Rio Grande City, Texas	30.04	763.0	30.27	768.8	45	7.2	84	E	4	1.8	.....	2cs	0	Calm	.....	0	0	Cloudy	
Rochester, New York	29.32	744.7	29.98	761.5	9	—12.8	78	SW	14	6.3	.....	5ck	0	W	.....	0.01	0.3	Fair	
Roseburg, Oregon	29.52	749.8	30.11	764.8	33.5	0.8	95	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	30.09	764.3	30.17	766.3	35.5	1.9	87	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.92	760.0	32	0.0	79	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.31	769.9	30.33	770.4	29	— 1.7	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.67	728.2	29.53	750.0	16	— 8.9	83	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Salt Lake City, Utah	25.80	655.3	30.14	765.5	17	— 8.3	51	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.55	750.6	30.17	766.3	38	3.3	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.07	763.8	30.15	765.8	45.3	7.4	61	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.31	744.5	30.02	762.5	22	— 5.6	86	SW	9	4.0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.09	764.3	30.13	765.3	12	—11.1	61	W	14	6.3	.....	1s	0	Calm	.....	0	0	Clear	
San Francisco, California	30.10	764.5	30.17	766.3	44	6.7	92	N	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	18	— 7.8	53	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.17	766.3	30.27	768.8	41	5.0	57	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.01	762.2	30.24	768.1	38	3.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.37	619.0	29.79	782.0	30	— 1.1	78	E	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.20	767.1	30.23	767.8	35	1.7	70	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.93	760.2	30.08	764.0	7	—13.9	54	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.06	687.3	30.06	763.5	32	0.0	79	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.96	761.0	30.02	762.5	8	—13.3	33	NW	27	12.1	.....	8c	0	W	.....	0	0	Fair	
Toledo, Ohio	29.24	742.7	29.95	760.7	20	— 6.7	85	S	8	3.6	.....	.....	10s	.....	Calm	01	0.3	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	43	6.1	50	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.24	768.1	30.27	768.8	41	5.0	57	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.52	749.8	30.03	762.8	32.0	0.0	89	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	34	1.1	100	SW	.....	.....	4	.....	10s	.....	SW	0.09	2.3	Cloudy	
Uvalde, Texas	29.82	744.7	30.18	766.6	45	7.2	67	SE	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Vicksburg, Mississippi	30.03	762.8	30.30	769.6	42	5.6	74	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.14	613.1	29.62	752.3	23	— 5.0	73	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.79	756.7	30.18	766.6	31.7	— 0.2	89	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.06	763.5	30.18	766.6	19	— 7.2	85	NE	3	1.3	.....	8c	0	NW	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	53	NE	.....	.....	1	0	2ks	.....	Calm	0	0	Fair	
Wilmington, N. Carolina	30.12	765.0	30.20	767.1	32	0.0	79	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.80	655.3	30.16	766.1	— 2	—18.9	67	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.97	76 .2	30.01	762.2	9	—12.8	77	NW	16	7.2	.....	0	0	.....	.....	0.23	5.8	Clear	
Yankton, Dakota	28.44	722.4	29.76	755.9	31	— 0.6	79	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair	
Yuma, Arizona	29.93	760.2	30.10	764.5	45	7.2	24	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.47	723.1	29.90	759.4	42	5.6	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.32	770.1	30.34	770.6	62	16.7	48	N	2.4	1.1	.....	4k	0	N	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.26	768.6	30.27	768.8	72	22.2	81	Calm	0	0	.....	2c	2s	Calm	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Paramaribo, D. Guiana, S. A	30.04	763.0	30.12	765.0	74	23.3	.....	NE	30.4	13.6	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Santiago de Cuba, W. I	30.01	762.2	30.02	762.5	81	27.2	70	E	.....	.....	2	.....	8ks	E	.....	0.090	2.29	½ Cloudy	O. J. Hering.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	29.98	761.5	30.04	763.0	—32.0	—35.6	.....	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,933 (?) ft.. or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Fracketville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,478.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft.. or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.. Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cents.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Up'er. From—	CLOUDS. Direction. Low'r. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.07	763.8	41.5	5.3	41	5.0	74	E	8	3.6	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Navy Yard, Pensacola, Fla.	30.42	772.6	42	5.6	42	5.6	83	W	5	2.2	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	30.00	762.0	51	10.6	9	—12.8	(sup.	WNW?	0?	0?	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan *	30.46‡	773.7‡	.....	.....	38.5	3.6	63	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Alliance, Smyrna, Turkey	30.00‡	762.0‡	.....	.....	46	7.8	62	N	.....	.....	1–2	.....	5	.....	N	.....	.....	.....	.....	Clearing.....	
Ashuelot. N. 8° 42', E. 105° 56'	30.02	762.5	79	26.1	77	25.0	82	NE	.....	.....	5	.....	5	.....	NE	.....	.....	Mod'ate	NE	Hazy...	
Canonicus, New Orleans, La.	30.35	770.9	39	3.9	45	7.2	100	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Colorado, New York, N. Y.	29.96	761.0	11	—11.7	9	—12.8	100	WSW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear..	
Constitution, Portsmouth, England	29.82‡	757.4‡	.....	.....	29	— 1.7	89	ENE	14	6.3	.....	.....	9	.....	ENE	.....	.....	.....	.....	Cloudy.....	
Despatch. Constantinople, Turkey	29.98‡	761.5‡	.....	.....	35	1.7	100	NNW	.....	.....	4–5	.....	10	.....	NNW	.....	.....	.....	.....	Rain & snow	
Essex, S. 40° 55', W. 58° 42'	30.08	764.0	69	20.6	68	20.0	90	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va.	30.32	770.1	73	22.8	28	— 2.2	77	Calm	0	0	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Gettysburg, Genoa, Italy	29.98‡	761.5‡	.....	.....	36	2.2	79	N	.....	.....	4–5	.....	10	.....	.....	0.10	2.5	.....	.....	Snowing.....	
Hartford, Montevideo, Uruguay	30.01	762.2	78	25.6	77	25.0	77	SE	3.6	1.6	.....	.....	8	.....	.....	0	0	Smooth	.....	Hazy.....	
Lackawana, Panama *	29.73‡	755.1‡	.....	.....	77	25.0	100	NW	.....	.....	1	.....	2	.....	.....	Blank	Blank	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.99†	761.7†	.....	.....	13	—10.6	62	SW	.....	.....	3	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Monocacy. Kobe, Japan *	30.44‡	773.2‡	.....	.....	45	7.2	76	NE	.....	.....	2–3	.....	2	.....	NE	.....	.....	.....	.....	Fair.....	
Monongehela, Yokohama, Japan	30.47‡	773.9‡	.....	.....	33	0.6	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Blue sky ...	
New Hampshire, Port Royal, S. C.	30.31†	769.9†	.....	.....	41	5.0	82	W	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	70	21.1	90	SE	.....	.....	1	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.46	773.7	24	— 4.4	20	— 6.7	100	ENE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	20	— 6.7	84	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Pensacola, Panama	29.92‡	760.0‡	.....	.....	76	24.4	100	NNW	2	0.9	.....	.....	2	.....	.....	0	0	Smooth	.....	Clear.....	
Powhatan, Norfolk, Va.	30.12	765.0	27	— 2.8	28	— 2.2	100	SW	.....	.....	0–1	.....	2	.....	N	0	0	.....	.....	Clear.....	
Quinnebaug, N. 35° 50', W. 45° 55'	30.10‡	764.5‡	.....	.....	66	18.9	100	SSW	.....	.....	6	.....	8	.....	WSW	.....	.....	Mod'ate	S;W	Cloudy.....	
Ranger. Yokohama, Japan	30.49‡	774.4‡	.....	.....	41	5.0	91	NW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 35° 48', W. 42- 08	30.29‡	769.4‡	.....	.....	65	18.3	84	SSE	.....	.....	4	.....	0	.....	.....	.....	.....	Smooth	W	Clear.....	
Rio Bravo, Brownsville, Texas	30.17	766.3	57	13.9	52	11.1	93	SE	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md.	30.16‡	766.1‡	.....	.....	20	— 6.7	.....	NE	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.06	763.5	58	14.4	12	—11.1	.....	W	6	2 7	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Supply, N. 45° 52', W. 13° 15'	29.27‡	743.4‡	.....	.....	53	11.7	93	NE	.....	.....	4–6	.....	10	.....	.....	.....	.....	Long	NE	Rainy.....	
Trenton Villafranca, France *	29.94‡	760.5‡	.....	.....	47	8.3	100	N	.....	.....	3–4	.....	10	.....	N	0.1	3.	.....	.....	Cloudy.....	
Tuscarora, Panama	29.96‡	761.0‡	.....	.....	79	26.1	91	NNW	.....	.....	1	.....	5	.....	Calm	0	0	Smooth	.....	Clear.....	
Wabash. Boston, Mass.	30.04‡	763.0‡	.....	.....	5	15.0	50	NW	7	3.1	.....	.....	5	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, Naples, Italy	30.30	769.6	55	12.8	47	8.3	85	N	.....	.....	1–2	.....	8	.....	N	.....	.....	Smooth	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; **the distinction** between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not **give the humidity.** *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; correction applied at this office. The position given is **generally that at** noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 22° 58′, W. 108° 30′		30.04*	763.0*	70	21.1	85	NW			4		0				Rough	NW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.80	756.9				Calm			0				E				Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Myer																			J. A. Thompson, 2d Off
S. S. Gaelic, N. 46° 14′, W. 166° 20′		30.41†	772.4†	44	6.7	92	W			6		k		W		Following	W	Showery	Capt. W. H. Ridley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 42° 55′ W. 24° 53′		29.81	757 2	67.0	13.9	75	N			8		8		NNE	0	6	N	Squally	
S. S. Leipzig																			L. Jahns.
S. S. Nürnberg																			Capt. F. Pfeiffer.
S. S. Ohio																			Capt. A. Jaeger.
																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President: Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 44° 53′, W. 53° 41′		29.61*	752.1*	34	1.1	??	WNW			7		8		NW	0	Heavy	SW	Cloudy	Captain Sargent.
S. S. Ohio, N. 48° 10′, W. 36° 02′		29.92†	760.0†	57	13.9	94	SW			6		10?		SSW	Blank	Mod'ate	SW; SSW	Clear?	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, Halifax, N. S.		29.70*	754.4*				W			5		8s		W	Blank			D. clouds	Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, Orient, Long Island		29.95	760.7	18	— 7.8	68	NW	7	3.1			0			0			Clear	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 22, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mogador, Marocco	.....	.....	29.73	755.2	60.6	15.9	80	SW	.....	.....	6	.....	10	.....	.....	0.984	25.0	Covered	
Nemours	.....	.....	29.58	751.3	76.1	24.5	23	S	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.69	754.0	68.0	20.0	25	SSE	.....	.....	6	.....	10	.....	.....	0	0	Covered	Tourilière.
La Calle	.....	.....	29.95	760.7	70.9	21.6	44	NE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	30.00	762.1	68.9	20.5	33	SW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.17	766.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.67	753.7	63.0	17.2	4	S	.....	.....	8	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	30.04	762.9	55.9	13.3	40	SSE	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	29.75	755.6	58 6	14.8	98	S	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	29.88	759.0	65.5	18.6	11	SE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.91	759.6	65.7	18.7	26	SE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.67	753.6	30.26	768.5	28.6	— 1.9	78	NE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.56	750.7	30.42	762.6	2.8	—16.2	100	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.48	748.7	30.44	773.2	17.6	— 8.0	88	Calm	.....	.....	0	.....	10s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.91	734.4	30.26	768.7	22.1	— 5.5	75	SSW	.....	.....	2	.....	8	.....	.....	0	0	.....	Andreas Rospini
Hermannstadt	28.95	735.3	30.57	776.5	3.9	—15.6	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.63	727.2	30.08	764.1	17.2	— 8.2	82	ENE	.....	.....	3	.....	6	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.34	745.2	30.42	772.6	19.2	— 7.1	98	SE	.....	.....	1	.....	0	.....	.....	0.004	0.1	.....	Dr. T. Stanecki.
Pola	30.06	763.5	30.17	766.4	49.3	9.6	82	WSW	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.98	761.5	30.49	774.4	20.8	— 6.2	84	E	.....	.....	3	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	30.01	763.1	30.34	770.7	25.3	— 3.7	100	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.12	765.1	30.23	767.7	41.7	5.4	94	Calm	.....	.....	0	.....	10	.....	.....	0.138	3.5	Rain & fog	P. Busin.
Vienna	29.44	747.7	30.21	767.3	20.1	— 6.6	89	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.18	766.6	30.28	769.1	30.3	— 0.9	.....	NW	6	2.7	.....	.....	10	.....	.....	0.030	0.76	Snowing	W. Boswell.
Ardrossan	30.24	768.1	30.26	768.6	32	0.0	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	George Carrick.
Armagh, Observatory	.....	.....	30.26	768.6	31.9	— 0.1	.....	NE	5	2.2	.....	.....	0	.....	.....	.....	.....	Blue sky	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.17	766.3	31.3	—0.4?	.....	NE	12	5.4	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton	.....	.....	30.16	766.1	29.9	— 1.2	.....	E	6	2.7	.....	.....	5	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.74	755.4	30.14	765.5	31.4	— 0.3	.....	NE	.....	.....	3	.....	3	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	80.0	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A [H.
Cambridge, Observatory	.....	.....	30.07	763.8	32.5	0.3	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	H. Todd. [C.
Cardington	.....	.....	30.14	765.5	29.4	— 1.4	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham, School M. E.	29.90	759.4	30.03	762 8	31.2	— 0.4	.....	NE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	Corpl. Davis.
Dartmoor	28.34	719.8	29.88	758.9	25.0	— 3.9	.....	E	.....	.....	9	.....	6	.....	.....	.....	.....	D. clouds	Alexander Watt.
Donaghadee	30.20	767.1	30.24	768.1	35	1.7	.....	E	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.96	761.0	29.98	761.5	31	— 0.6	.....	ENE	.....	.....	6	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.71	754.6	29.95	760.7	31.9	— 0.1	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.55	699.8	29.87	758.7	74.0	23.3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	87	30.6	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.16	766.1	36	2.2	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.36	745.7	29.41	747.0	55.8	13.1	.....	W	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	30.04	763.0	30.25	768.3	31.4	— 0.3	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	30.08	764.0	30.08	764.0	32	0.0	.....	ENE	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.87	758.7	30.05	763.3	30.1	— 1.1	.....	ENE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.61	752.1	29.84	757.9	36	2.2	.....	ENE	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.75	755.6	29.98	761.5	34	1.1	.....	NE	.....	.....	4	.....	6k	.....	.....	.....	.....	Gloomy	M. P. Moyle.
Holyhead	30.11	764.8	30.16	766.1	34	1.1	.....	ENE	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.51	749.5	29.81	757.2	34.8	1.6	.....	ENE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew, Observatory	30.01	762.2	30.05	763.3	30.0	— 1.1	.....	NE	18	8.0	.....	.....	9	.....	.....	.....	.....	Misty	The Staff.
Leicester, Museum	29.85	758.2	30.12	765.0	32.3	0.1	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	Blue sky	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.12	765.0	30.20	767.1	59.4	15.2	.....	SE	.....	.....	1	.....	4k	.....	.....	.....	.....	D. clouds	Sergt. Beckett, A. H. C.
Nairn	30.14	765.5	30.24	768.1	32	0.0	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.25	768.3	68.5	20.3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.94	760.5	30.14	765.5	31.4	— 0.3	.....	NNE	.....	.....	2	.....	1k	.....	N	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.56	750.8	30.12	765.0	30.0	— 1.1	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Hazy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.19	766.8	29	— 1.7	.....	ENE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.86	758.4	29.94	760.5	31.2	— 0.4	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	30.04	763.0	30.10	764.5	36	2.2	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.87	758.7	30.04	763.0	33	0.6	.....	ENE	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.30	769.6	32	0.0	.....	SE	17	7.6	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.43	772.9	39.4	4.1	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.88	758.9	30.17	766.3	32.3	0.2	.....	NE	.....	.....	2	.....	2	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.20	767.1	30.23	767.8	32 9	0.5	83	E	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	F. H. Redford.
Stonyhurst, Observatory	29.77	756.1	30.17	766.3	31.0	— 0.6	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	Blue sky	Rev. S. J. Perry.
Stratfield Turgiss	.....	.....	.....	.....	30.1	— 1.1	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S
Thurso	30.17	766.3	30.23	767.8	36	2.2	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	29.95	760.7	33	0.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	30.08	764.0	30.11	764.8	35.5	1.9	.....	ENE	23	10.3	.....	.....	10	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.95	760.7	61	16.1	88	SE	.....	.....	3	.....	7k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.29	769.4	32.0	0.0	.....	NE	.....	.....	2	.....	10ks	.....	.....	0.04	1.0	Overcast	Andrew Gibb.
Mauritius, Observatory	29.57	751.1	29.76	755.8	80.8	27.1	70	SW	15.0	6.7	.....	1	4	.....	.....	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.90	759.4	29.99	761 7	59.6	15.3	73	SSW	14	6.3	.....	.....	10	.....	.....	0.05	1.3	Threatening	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.32	770.1	38	3.3	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.22	767.6	37	2.8	.....	SE	.....	.....	3	4	2	NW	.....	0	0	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.20	666.5	29.92	760.0	64.4	18.0	88	NE	.....	.....	2	.....	6s	.....	NE	0	0	.....	Federico Maison.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.24	768.0	30.28	769.2	28.2	— 2.1	94	ESE	.....	.....	4	.....	2	.....	.....	.....	.....	Snowing...	.
Fanöe	30.21	767.3	30.23	767.8	22.8	— 5.1	90	E	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	28.62	727.0	28.67	728.1	30.0	— 1.1	.....	S	.....	.....	7	.....	10	.....	.....	.....	.....	Snowing	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.30	769.7	30.34	770.6	34.7	1.5	78	NE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....
Vestervig	30.11	764.9	30.28	769.2	21.9	— 5.6	85	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.25	742.9	29.80	756.9	28.0	— 2.2	92	NE	.....	.....	3	.....	10	.....	.....	0.004	0.1	Covered	Collignon, Director.
Amiens, Normal School	29.79	756.6	29.91	759.6	26.6	— 3	90	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.75	755.7	29.83	757.7	54.1	12.3	52	SE	.....	.....	3	.....	10	.....	SW	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.19	741.5	29.78	756.3	38.1	3.4	88	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Light rain	C. Saillard, Director.
Beauvais, Normal School	29.60	751.9	29.91	759.7	23.4	— 4.8	.....	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frère Eugene Marie, Dir.
Besançon, Normal School	28.95	735.3	29.87	758.8	36.3	2.4	.....	ENE	.....	.....	2	.....	10	.....	.....	0.16	4.	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.96	735.5	29.85	758 3	39.9	4.4	100	S	.....	.....	1	.....	10n	W	W	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.52	749.8	29.76	755.9	34.9	1.6	85	NE	.....	.....	6	.....	10	.....	NE	0.089	2.25	Raining	M. de Rermaur, Director.
Carcassonne, Normal School	29.24	742.6	29.65	753.0	56.5	13.6	75	E	.....	.....	4	.....	5	SE	E	0	0	Cloudy	September, Director.
Caen, Normal School	29.72	755.0	29.80	757.0	30.2	— 1	80	NE	.....	.....	2	.....	5	.....	N	0	0	Cloudy	M. Lair, Director.
Chartres, Normal School	29.21	741.9	29.80	757.0	26.1	— 3.3	83	NE	.....	.....	3	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.49	749.0	29.82	757.5	33.4	0.8	97	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.31	719.0	29.66	753.3	51.8	11.0	54	S	.....	.....	2	.....	10	.....	S	0	0	Covered	Alluard, Director.
Commercy, Normal School	28.98	736.0	29.87	758.8	29.3	— 1.5	96	E	.....	.....	1	.....	10n	.....	E	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.75	730.3	29.89	759.3	48.6	9.2	77	SE	.....	.....	6	.....	10	.....	SE	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	29.06	738.1	29.85	758.3	35.6	2	.....	ENE	.....	.....	3	.....	10n	.....	S	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon N. School	29.42	747.2	29.64	752.8	39.9	4.4	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.47	748.4	29.79	756.6	32.2	0.1	93	N	.....	.....	4	.....	10	.....	NE	0.091	2.3	Coverad	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.82	732.1	29.76	755.8	42.3	5.7	94	NE	.....	.....	1	.....	10	.....	.....	0.063	1.60	Covered	Baudry, Director.
Lorient, Naval Observatory	29.56	750.9	29.67	753.5	33.8	1.0	96	NNE	.....	.....	6	.....	.....	.....	NE	0.535	13.6	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.76	730.5	30.63	778.0	33.4	0.8	89	SW	.....	.....	3	.....	n	.....	NE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.65	753.0	29.85	758.2	52.9	11.6	65	SE	.....	.....	3	.....	10	.....	NW	0 020	0.5	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.77	629.2	.....	.....	31.8	— 0.1	100	S	.....	.....	8	.....	10	.....	.....	0	0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.58	751.3	29.61	752.1	45.7	7.6	100	SE	.....	.....	1	.....	10	SE	SE.	0.35	9.	Raining	Lt. Decante, Director.
Rouen, Normal School	29.79	756.6	29.87	758.8	27.3	— 2.6	68	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.73	755.2	29.76	756.0	30.9	— 0.6	96	NE	.....	.....	4	.....	10	NE	NE	0	0	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.66	753.3	29.82	757.5	27.9	— 2.3	80	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	E. Renou, Director.
Tarbes, Normal School	28.54	724.8	29.63	752.5	46.4	8	72	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.13	740.0	29.85	758.3	42.8	6	75	N	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.4	30.00	762.1	77.0	25	..	.....	.....	.....	.....	.....	.....	.....	.....	0.67	17.	.....	L'Abbé Marchès.
Lyons, Observatory	.....	.....	29.75	755.7	47.5	8.6	88	E	.....	.....	3	.....	9	.....	.....	0.004	0.1	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.60	624.7	29.91	759.7	45.1	7.3	59	WSW	38.0	17.0	.....	.....	10	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.01	762.2	50.4	10.2	86	NNW	.....	.....	1	.....	10	.....	.....	0.169	4.3	Foggy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.54	750.4	.....	.....	25.2	— 3.8	84	NNE	.....	.....	3	.....	10	.....	.....	Inap.	Inap.	Sprinkling	Marié Davy, Director
Perpignan	29.63	752.7	29.74	755.4	53.8	12.1	86	SE	26.2	11.7	.....	.....	10	.....	SE	Inap.	Inap.	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.10	561.4	.....	.....	31.1	— 0.5	.....	NW	.....	.....	2	.....	10	.....	.....	0.327	8.3	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.86	733.0	29.57	751.1	56.1	13.4	77	SSE	.....	.....	8	.....	6	.....	.....	0	0	.....	M. Mercadier Julier
Tours	29.51	749.6	29.71	754.6	31.3	— 0.4	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Cousin-Marquet.
Versailles Observatory	.....	.....	29.80	757.0	25.9	— 3 4	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	Dr. A. Bérenу, Director
Zi-Ka-Wei, (near Shanghai)	30.37	771.5	30.40	772.1	32.5	0.3	94	N	13.9	6.2	.....	.....	10n	.....	.....	0.315	8.0	Hail; rain; snow	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms; published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.5	30.00	761.9	21.2	— 6.0	85	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Prof. Dr. Hoh.
Berlin	30.04	763.1	30.23	767.8	21.0	— 6.1	89	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.73	755.2	30.27	768.8	16.5	— 8.6	78	SE	.....	.....	3	.....	0	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.47	748.4	29.91	759.8	27.0	— 2.8	91	NE	.....	.....	2	.....	10	.....	.....	0.150	3.8	Rain & snow	Albert Senz.
Cassel	29.40	746.7	30.00	762.1	21.9	— 5.6	66	ENE	.....	.....	1	.....	6	E	.....	0.205	5.20	Snowing.....	Dr. H. Möhl.
Crefeld	29.80	756.8	29.96	760.9	23.9	— 4.5	77	NE	.....	.....	3	.....	8	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	24.8	— 4.0	72	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.61	752.0	29.98	761.6	25.2	— 3.8	.....	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.42	721.8	29.91	759.8	29.8	— 1.2	76	SE	.....	.....	3	.....	10	SE	.....	0.012	0.3	Light rain....	M. Wilhelm.
Hamburg	30.11	764.9	30.19	766.8	22.5	— 5.3	78	E	.....	.....	3	.....	0	.....	.....	0.004	0.1	Clear	Captain F. Hegemann
Kiel	30.21	767.4	30.23	767.8	22.5	— 5.3	88	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.31	769.8	30.40	772.1	17.8	— 7.9	82	SE	.....	.....	2	.....	0	.....	.....	0.043	1.1	.....	Prof. E. Luther.
Köslin	.....	.....	30.24	768.0	19.4	— 7.0	.....	S	.....	.....	1	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.68	753.8	30.13	765.3	20.5	— 6.4	74	E	.....	.....	4	.....	8	SW	.....	0	0	.....	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.35	770.8	30.39	772.0	17.1	— 8.3	91	SE	.....	.....	2	.....	4s	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	30.36	771.1	30.37	771.5	15.4	— 9.2	81	SSE	.....	.....	1	.....	3	.....	.....	0	0	.....	A. Lothes.
Posen	30.05	763.2	30.36	771.2	18.0	— 7.8	100	S	.....	.....	5	.....	0	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.37	745.9	29.95	760.7	27.3	— 2.6	89	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Sleeting.....	Imp. University Observatory
Stuttgart	28.93	734.9	29.92	759.9	30.2	— 1.0	94	N	.....	.....	1	.....	10	.....	.....	0.236	6.0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.43	722.2	30.00	762.0	23.0	— 5.0	80	Calm	0	0	.....	.....	10	.....	.....	0.087	2.2	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.25	768.3	30.27	768.9	19.4	— 7.0	99	ENE	.....	.....	1	.....	10	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.00	762.1	30.41	772.3	50.4	10.2	.....	NE	.....	.....	0.5	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.03	762.8	30.08	764.0	75.8	24.3	10	E	.....	.....	.....	.....	1	.....	.....	0	0	D. clouds.....	
Deesa	29.54	750.4	30.03	762.7	75.7	24.3	24	N	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.89	759.2	29.93	760.2	78.5	25.8	63	NNW	15.0	6.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Poonah	27.94	709.6	29.96	760.8	76.5	24.7	.....	E	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lahore	29.36	745.6	30.14	765.4	60.6	15.9	21	NW	4.2	1.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.38	695.5	29.91	759.7	78.9	26.1	29	ENE	4.0	1.8	.....	.....	1	.....	.....	0	0	D. clouds.....	
Roorkee	29.10	739.2	30.04	763.1	60.4	12.8	29	NW	2.6	1.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.50	749.3	30.09	764.2	64.8	18.3	49	NW	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.94	735.0	30.00	761.9	76.1	24.5	30	Calm	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Lucknow	29.67	753.7	30.06	763.4	68.6	20.3	17	NW	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.74	755.3	30.06	763.6	61.6	16.4	48	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.84	758.0	30.03	762.8	68.9	20.5	48	W	1.6	0.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Hazaribagh	27.96	710.3	30.04	763.0	64.6	18.1	28	NW	5.6	2.5	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.93	760.2	30.01	762.3	69.4	20.8	53	Calm	2.2	1.0	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	30.10	764.5	30.12	765.0	64.8	18.2	58	N	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	.....	.....	.....	.....	66.3	19.1	54	Calm	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.89	759.2	29.99	761.6	70.0	21.1	57	Calm	4.6	2.1	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.67	753.6	30.02	762.5	64.9	18.3	76	Calm	0.4	0.2	.....	.....	0	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.67	728.1	30.06	763.5	72.2	22.3	35	NNE	3.1	1.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,016 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.82	757.4	30.24	768.2	34.3	1.3	91	NE	0.7	0.3	.....	.....	10	.....	.....	0.209	5.3	.....	Prof. Giovanni Clodig.
Padua	30.11	764.7	30.22	767.6	33.4	0.8	94	NNE	9.8	4.4	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.69	754.0	30.23	767.9	32.2	0.1	96	NW	.....	.....	1	.....	10	.....	.....	0.630	16.0	.....	Prof. Schiaparelli.
Moncalieri	29.30	744.1	30.24	768.0	32.9	0.5	92	N	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.22	716.8	30.20	767.0	31.5	— 0.3	85	NNW	.....	.....	2	.....	10	.....	.....	0.031	0.8	.....	Prof. D. C. Bruno.
Genoa	29.93	760.1	30.12	765.0	37.0	2.8	69	NE	13.7	6.1	.....	.....	10	S	.....	0.382	9.7	.....	Prof. G. M. Garibaldi.
Florence	29.86	758.6	30.13	765.3	43.2	6.2	94	SW	.....	.....	2	.....	10	.....	.....	0.146	3.7	.....	Cav. F. Meucci
Leghorn	29.94	760.5	30.03	762.7	44.1	6.7	93	NE	10.5	4.7	.....	.....	10	NE	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.14	765.6	30.19	766.9	34.9	1.6	93	NE	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.97	761.1	30.14	765.6	53.2	11.8	67	ESE	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari
Lecce	30.02	762.6	30.28	769.2	50.9	10.5	76	S	18.6	8.3	.....	.....	8	S	.....	0.024	0.6	.....	Prof. C. De Giorgi
Cagliari	29.70	754.4	29.89	759.3	60.1	15.6	69	SE	.....	.....	2	.....	10	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.36	745.7	30.27	768.8	50.2	10.1	71	SE	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.83	757.6	30.08	764.1	66.6	19.2	35	SW	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.19	766.9	30.27	768.9	57.9	14.4	71	NNW	12.5	5.6	.....	.....	9	SW	.....	0.028	0.7	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.65	753.0	30.20	767.1	57.2	14.0	69	WSW	0	0	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	51.9	11.1	74	N	4.8	2.1	.....	.....	9n;s	.....	N	0.870	22.10	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.80	756.9	30.01	762.2	50.0	10.0	90	N	9.2	4.1	.....	.....	8s	.....	.....	0.360	9.14	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.12	765.0	38.8	3.8	86	N	3.5	1.6	.....	.....	10n	.....	.....	0.320	8.13	Raining	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.04	636.1	30.22	767.7	42.8	6.0	53	SW	.....	.....	1	3cs	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.42	620.3	30.20	767.1	50.5	10.3	79	NNW	.....	.....	2	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.04	585.3	30.26	768.7	41.0	5.0	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	M. V. de Leon, M. E.
Tlacotalpam	30.06	763.6	30.07	763.8	59.4	15.2	91	SW	.....	.....	1	7	0	SW	.....	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.14	613.1	30.23	767.8	42.0	5.6	40	E	.....	.....	1	0	0	.....	.....	0	0	.....	G. Barroeta, M. D.
Vera-Cruz	30.05	763.3	30.08	764.0	62.6	17.0	79	SW	.....	.....	1	.....	2s	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	22.51	571.7	.....	.....	51.8	11	59	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.35	593.0	30.10	764.5	37.4	3.0	58	ENE	0	0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.88	720.7	30.04	763.1	71.6	22.0	62	NE	.....	.....	1	.....	7	.....	W	.....	.....	Very misty	R. Banda, C. E.
San Juan E. Michapam	30.08	764.0	30.21	767.4	60.5	15.8	.....	Calm	.....	.....	0	7n	3n	E	E	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.5 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.6	30.02	762.6	24.8	— 4.0	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.06	763.4	30.11	764.8	24.8	— 4.0	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Helder	30.08	764.0	30.08	764.0	24.8	— 4.0	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.01	762.2	30.01	762.2	24.3	— 4.3	97	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.98	761.6	30.03	762.8	25.3	— 3.7	77	NE	.....	.....	4	.....	2	.....	.....	0	0	Slightly cl'dy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.22	767.5	30.27	768.9	23.0	— 5.0	76	SSE	13.9	7.1	.....	.....	8	.....	.....	.....	.....	Light snow.	
Brönö	30.53	775.4	30.57	776.4	21.9	— 5.6	77	SE	9	4	.....	.....	9	.....	.....	0	0	.....	
Christiania	30.25	768.4	30.41	772.5	19.4	— 7.0	75	ESE	.....	.....	.....	.....	7	.....	.....	0.004	0.1	.....	
Tromsö	30.67	778.9	30.71	780.0	19.4	— 7.0	78	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES

Furnished by the cooperation of J. C. de Brito Cayello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.06	763.4	30.25	768.3	55.0	12.8	84	N	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.40	721.3	29.44	747.8	50.9	10.5	87	E	17.4	7.8	.....	.....	10	SE	.....	0.142	3.6	Light rain....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.58	751.3	29.67	753.5	60.4	15.8	61	NNW	9.4	4.2	.....	.....	6	.....	.....	1.303	33.1	Thunder storm..	Capt. D. A. de Cunha.
Lisbon, Observatory	28.97	735.9	29.34	745.1	51.6	10.9	91	ENE	24.8	11.1	....	.....	10	.....	.....	0.555	14.1	.....	The Staff.
Ponta Delgada, (Azores)	30.14	765.6	30.21	767.4	59.0	15.0	61	N	8.1	3.6	....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinta, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.81	757.2	82.4	28.0	.....	E	.....	.....	2	.....	2	.....	E	2	E	D. clouds.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, N. 12° 58', W. 18° 50'	.....	.....	29.92	759.9	77.7	25.4	.....	NE	.....	.....	5	.....	0	....	.....	5	NE	Blue sky.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, S. 11° 45', E. 12° 48'	.....	.....	29.78	756.5	82.4	28.0	.....	SW	.....	.....	3	.....	5	.....	.....	3	SW	D. clouds.....	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.03	762.8	59.0	15.0	.....	S	.....	.....	1	.....	10	.....	.....	0	.....	Overcast.....	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	29.95	760.7	30.41	772.5	15.1	— 9.4	84	SE	9	4	.....	.....	0	.....	.....	.....	.....	....	Astronomical Obs.
Wilna	29.98	761.4	30.43	773.0	18.5	— 7.5	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	30.31	769.9	30.58	776.7	16.7	— 8.5	79	ESE	11	5	.....	.....	10n	.....	.....	.....	.....	....	Prof. Dr. Weihrauch.
St. Petersburg	30.74	780.8	30.76	781.2	13.5	—10.3	76	ESE	13	6	.....	.....	3cs	.....	.....	.....	.....	....	Central Physical Obs.
Kieff	29.71	754.6	30.41	772.4	13.3	—10.4	57	E	4	2	.....	.....	10n	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	30.31	769.8	30.38	771.6	25.5	— 3.6	87	NNW	9	4	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Kurdakof.
Kertch	30.23	767.9	30.25	768.4	36.7	2.6	91	NW	9	4	.....	.....	10	.....	.....	.....	.....	....	Lagorio.
Moscow	30.35	770.8	30.97	786.7	3.6	—15.8	62	SE	9	4	.....	.....	0	.....	.....	.....	.....	....	Meteorological Obs.
Lugan	30.22	767.5	30.45	773.3	8.2	—13.2	76	ENE	22	10	.....	.....	10	.....	.....	.....	.....	....	MeteorologicalObs.
Archangel	31.08	789.3	31.09	789.8	—18.8	—28.2	73	ESE	2	1	.....	.....	0	.....	.....	.....	.....	....	Capt Sseliwerstow.
Tiflis	28.67	728.2	30.11	764.8	49.8	9.9	46	NW	45	20	.....	.....	5s	.....	.....	.....	.....	....	Physical Observatory
Astrakhan	30.54	775.8	30.46	773.7	16.7	— 8.5	76	E	18	8	.....	.....	2s	.....	.....	.....	.....	....	Capt. Wisganow.
Irotkowo*	30.48	774.2	31.02	788.0	3.9	—15.6	52	NNW	4	2	.....	.....	0	.....	.....	.....	.....	....	Cand. Fatjanow.
Kasan	30.77	781.6	31.09	789.6	— 3.8	—19.9	64	N	4	2	.....	.....	0	.....	.....	.....	.....	....	Physical Cabinet.
Ekaterinburg	29.76	756.0	30.87	784.1	— 5.3	—20.7	73	WNW	22	10	.....	.....	4c;cs	.....	.....	.....	.....	....	Meteorological Obs.
Nukuss	30.08	764.1	30.34	770.6	23.0	— 5.0	38	ENE	18	8	.....	.....	10n	.....	.....	.....	.....	....	
Tashkend	28.75	730.2	30.58	776.7	28.0	— 2.2	89	Calm	0	0	.....	.....	0	.....	.....	.....	.....	....	Teich, A. M.
Barnaul	30.25	768.3	30.87	784.0	—13.5	—25.3	77	SW	0	0	.....	.....	10	.....	.....	.....	.....	....	Meteorological Obs.
Yeniseisk	30.43	773.0	30.78	781.7	—17.3	—27.4	60	SSW	4	2	.....	.....	0	.....	.....	.....	.....	Light clouds	Marks.
Peking, (China)	30.65	778.6	30.80	782.2	13.1	—10.5	37	NE	7	3	.....	.....	k	.....	.....	.....	.....	....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 58° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the cooperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.59	751.6	29.70	754 3	56.3	13.5	58	E	2.9	1.28	.....	.....	10	.....	.....	0	0	Covered.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.52	749.8	29.58	751.3	54.9	12.7	88	SE-	6.9	3.08	.....	.....	10	.....	.....	0.039	1.0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.60	675.5	.....	.....	49.5	9.7	90	SE	9.2	4.13	.....	.....	7	.....	.....	0.748	19.0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.30	693.5	.....	.....	48.0	8.9	95	SE	7.4	3.33	.....	.....	10	.....	.....	0.693	17.6	Rainy	The Staff.
Murcia, Met. Obs'y	29.37	746.0	29.52	749.8	63.3	17.4	78	NW	1.5	0.69	.....	3	4	S	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.63	727.2	29.54	750.3	52.7	11.5	64	NE	4.9	2.2	.....	.....	1	.....	.....	0.220	5.6	Almost clear	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.17	766.3	30.24	768.0	58.9	14 9	79	Calm	0	0	.....	0	1k;s	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	759.0	29.93	760 3	80.6	27.0	81	NNE	0	0	....	.....	2cs	.....	.....	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.23	742.4	29.33	744.9	55.0	12.8	82	S	27.6	12.3	.....	0	10	.....	S	0.860	21.8	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.01	762.2	30.10	764.5	74.7	23.6	94	SE	0	0	.....	3k	4kn	E	E	0.295	7.50	Cloudy.	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.45	773.5	30.49	774.5	— 6.9	—21.6	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	30.65	778.5	30.70	779.8	9.7	—12.4	92	NE	.....	.....	4	.....	10	.....	.....	0.031	0.8	.....	
Hernosand	30.38	771.8	30.44	773.1	14.4	— 9.8	94	ENE	.....	.....	4	.....	10	.....	.....	0.067	1.7	Snowing.....	
Stockholm	30.23	767.9	30.41	772.4	24.8	— 4.0	95	ENE	.....	.....	4	.....	10	.....	.....	0.189	4.8	Snowing.....	
Wisby	30.23	767.8	30.29	769.3	24.4	— 4.2	95	ESE	.....	.....	6	.....	10	.....	.....	0.094	2.4	Snowing.....	
Sub-Series.																			
Upsala	30.35	771.0	30.43	772.9	23.9	— 4.5	90	ENE	8.5	3.8	.....	.....	10	.....	.....	0.109	2.78	Snowing.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.45	722.5	29.95	760.6	31.5	— 0.3	86	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	The Observatory.
Zurich	28.24	717.4	29.97	761.3	28.8	— 1.8	96	NW	.....	.....	1	.....	10	.....	.....	0.055	1.4	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.0 mm.; Thermometer, —2.1 cent.; Relative Humidity, +8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.52	775.2	36.1	2.3	64	N	8	3.5	.....	.....	4	.....	NNW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	30.30	769.5	52.2	11.2	.....	W	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.06	763.5	30.17	766.4	61.7	16.5	60	W	.....	.....	2	.....	8n	.....	SW	0.20	5.1	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.71	754.6	29.78	756.4	5.7	—14.6	88	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Hon. J. Ferguson.
Brockville, Ontario	29.48	748.8	29.81	757.2	15	— 9.4	.....	Calm	0	0	.....	.....	10s	.....	W	0.40	10.2	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.67	753.6	29.73	755.1	5	—15.0	90	NE	2	0.9	.....	.....	10n	.....	NE	0.04	1.0	Light snow.	G. A. Blair.
Charlottetown, P. E. Island	29.74	755.4	29.79	756.7	9	—12.8	98	E	14	6.3	.....	.....	10n	.....	Calm	.....	.....	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.53	750.0	29.74	755.4	1.7	—16.8	100	SE	.....	.....	1	0	2s	.....	.....	0.60	15.2	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.00	762.0	30.04	763.0	34.1	1.2	100	Calm	.....	.....	.....	1cs	0	.....	.....	0.41	10.4	Clear.....	W. H. Bevis.
*Father Point, Quebec	29.75	755.6	29.77	756.1	0	—17.8	88	E	5	2.2	.....	8cs	2s	Calm	E	0.03	0.8	Light snow.	J. McWilliams.
Fredericton, N. B	29.59	751.6	29.66	753.4	6.2	—14.3	93	NW	4	1.8	.....	.....	10n	.....	.....	0.33	8.4	Snowing.....	Prof. Harrison.
*Fort Garry, Manitoba	29.03	737.3	29.98	761.5	—12	—24.4	96	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	28.69	728.7	29.85	758.2	23	— 5.0	.....	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast.....	James Grant.
*Halifax, N. S	29.44	747.8	29.58	751.3	25	— 3.9	98	S	20	8.9	.....	.....	10n	.....	.....	0.150	3.81	Heavy snow	F. Allison, M. A.
Hamilton, Ontario	29.45	748.0	29.84	757.9	28.7	— 1.8	82	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	30.01	762.2	30.03	762.8	18	— 7.8	100	NW	.....	.....	2	0	2ks	.....	W	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.45	748.0	29.80	756.9	23	— 5.0	93	W	11	4.9	.....	5c	0	W	.....	0.64	16.3	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	29.89	759.2	29.93	760.2	7.8	—13.4	80	Calm	0	0	.....	6ck	0	W	.....	0	0	Fair.....	C. H. Rigby.
Moose Factory, Ontario	30.02	762.5	30.06	763.5	—41.0	—40.6	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	J. R. Nason.
*Montreal, Quebec	29.57	751.1	29.79	756.7	5	—15.0	85	N	4	1.8	.....	8k	2s	NW	.....	0.33	8.4	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.14	740.1	29.93	760.2	— 7	—21.7	62	Calm	0	0	.....	0	0	.....	.....	0.18	4.6	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.05	737.9	29.85	758.2	16.6	— 8.6	71	N	.....	.....	.....	.....	9ks	.....	.....	.....	.....	Cloudy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.13	739.9	29.86	758.4	26	— 3.3	88	W	4	1.8	.....	.....	Haze	.....	.....	Inap.	Inap.	Cloudy.....	H. Morgan.
Port Hastings, N. S	29.72	754.9	29.77	756.1	8.9	—12.8	.....	SE	5	2.2	.....	.....	.....	.....	.....	0.20	5.1	Snowing.....	Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.85	758.2	26	— 3.3	94	NW	.....	.....	.....	.....	8ks	.....	W	0.02	0.5	Cloudy.....	M. Payne.
*Quebec, Quebec	29.42	747.2	29.77	756.1	3	—16.1	73	Calm	.....	.....	0	0	Haze	.....	.....	0	0	Clear.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.36	745.7	29.88	758.9	— 5	—20.6	82	W	4	1.8	.....	0	0	.....	.....	0.21	5.3	Clear.....	W. H. McIntyre.
St. Andrews, N. B	29.56	749.3	29.55	750.6	23	— 5.0	88	N	.....	.....	3	.....	10n	.....	.....	0.40	10.2	Light snow.	Dr. Gove.
St. John, N. B	29.38	746.2	29.55	750.6	25	— 3.9	100	S	12	5.4	.....	.....	10n	.....	.....	0.39	9.9	Light snow.	G. Murdock, C. E.
*Saugeen, Ontario	29.09	738.9	29.85	758.2	16	— 8.9	93	N	13	5.8	.....	.....	10s	.....	.....	0.12	3.0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.05	737.9	29.89	759.2	13	—10.6	92	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.49	723.6	29.84	757.9	21.8	— 5.7	87	NW	2.5	1.1	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M.A.
*Sydney, C. B	28.96	761.0	30.00	762.0	— 7	—21.7	100	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.45	748.0	29.86	758.4	25	— 3.9	87	N	8	3.6	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	Magnetic Observatory.
Windsor, N. S	29.56	750.8	29.66	753.4	16.0	— 8.9	83	E	7	3.1	.....	0?	0?	.....	.....	.....	.....	Snowing.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	19.0	— 7.2	100	SE	.....	.....	.....	0	3k	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.5,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From —	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.55	750.6	29.78	756.4	32	0.0	69	NW	8	3.6	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	
Alpena, Michigan	29.16	740.7	29.85	758.2	15	— 9.4	82	W	4	1.8	.....	.....	10s	.....	N	0.14	3.6	Cloudy	
Atlanta, Georgia	28.97	735.8	30.14	765.5	44	6.7	59	SW	12	5.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Atlantic City, New Jersey	29.87	753.7	29.88	758.9	38	3.3	81	SW	8	3.6	.....	0	5s	.....	W	0	0	Fair	
Augusta, Georgia	30.03	762.8	30.22	767.6	37	2.8	81	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Baltimore, Maryland	29.86	758.4	29.91	759.7	36	2.2	80	S	4	1.8	.....	5c	2s;fg	NW	Calm	0	0	Foggy	
Barnegat, New Jersey	29.86	758.4	29.88	758.9	33	0.6	79	NW	4	1.8	.....	5c	2s	Calm	Calm	0	0	Fair	
Bismarck, Dakota	27 99	710.9	29.84	757.9	7	—13.9	100	NW	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear	
Boerne, Texas	28.50	723.9	29.84	757.9	47	8.3	100	SW	2	0.9	.....	5k	0	SW	.....	0	0	Fair	
Boise City, Idaho	27.29	693.2	30.25	768.3	25	— 3.9	83	Calm	1	0.4	.....	0	5s	.....	Calm	0.06	1.5	Fair	
Boston, Massachusetts	29.62	752.3	29.78	756.4	31	— 0.6	69	SW	12	5.4	.....	5k	2s;hz	NW	W;Calm	0.02	0.5	Fair	
Brackettville, Texas	28.88	733.5	29.92	760.0	55	12.8	81	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Breckenridge, Minnesota	28.74	730.0	29.81	757.2	10	—12.2	94	N	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.94	760.5	30.01	762.2	57	13.9	94	SE	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Buffalo, New York	29.10	739.1	29.82	757.4	27	— 2.8	88	SW	9	4.0	.....	5cs	5s	W	SW	0.01	0.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	19	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.44	747.8	29.74	755.4	23.5	— 4.7	80	N	8	3.6	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Cairo, Illinois	29.53	750.0	29.92	760.0	48	8.9	63	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	43	6.1	59	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	23	— 5.0	21	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.53	699.2	30.09	764.3	26	— 3.3	67	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	45	7.2	84	SW	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
Cape Henry, Virginia	29.98	761.5	30.00	762.0	37	2.8	71	SW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.15	765.8	30.16	766.1	49	9.4	79	W	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.88	758.9	29.92	760.0	37	2.8	71	SW	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.19	741.4	29.92	760.0	42	5.6	91	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Charleston, South Carolina	30.20	767.1	30.27	768.8	45	7.2	68	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.84	605.5	29.78	756.4	36	2.2	45	NW	48	21.5	.....	0	5s	.....	NW	0	0	Fair	
Chicago, Illinois	28.96	735.6	29.66	753.4	32	0.0	79	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Cincinnati Ohio	29.23	742.4	29.88	758.9	42	5.6	50	S	4	1.8	.....	4c	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.13	739.9	29.87	758.7	32	0.0	69	S	4	1.8	.....	5cs	0	SW	.....	0	0	Fair	
Coleman City, Texas	28.10	713.7	29.81	757.2	38	3.3	81	S	4	1.8	.....	2c	0	W	.....	0	0	Fair	
Columbus, Ohio	28.97	735.8	29.82	757.4	37	2.8	62	S	3	1.3	.....	2c	Fog	Calm	Calm	0	0	Fair	
Corpus Christi, Texas	27.96	710.2	29.70	754.4	43	6.1	66	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.46	748.3	29.94	760.5	49	9.4	78	E	8	3.6	.....	2cs	9	Calm	.....	0	0	Fair	
Davenport, Iowa	28.96	735.6	29.61	752.1	30	— 1.1	78	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.17	639.3	.....	.....	29	— 1.7	78	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.66	728.0	29.84	757.9	44	6.7	92	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.05	737.9	29.84	757.9	50	10.0	86	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.60	624.8	29.82	757.4	50	10.0	14	W	28	12.5	.....	.....	8s	.....	W	0	0	Cloudy	
Des Moines, Iowa	28.66	728.0	29.56	750.8	26	— 3.3	75	SE	1	0.4	.....	2c	Sm'e	NW	Calm	0	0	Fair	
Detroit, Michigan	29.11	739.4	29.80	756.9	28	— 2.2	88	SW	1	0.4	.....	10cs	Fog	Calm	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.20	690.9	29.55	750.6	27	— 2.8	88	W	6	2.7	.....	5k	0	W	.....	0	0	Fair	
Dubuque, Iowa	28.93	734.8	29.66	753.4	21	— 6.1	71	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.09	738.9	29.81	757.2	15	— 9.4	91	N	4	1.8	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Eagle Pass, Texas	29.13	739.9	29.88	758.9	50	10.0	65	NE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.49	749.0	29.56	750.8	24	— 4.4	100	NW	16	7.2	.....	.....	10n	.....	NW	0.21	5.3	Heavy snow	
Edinburg, Texas	.....	.....	.....	.....	56	13.3	63	S	.....	.....	1	8c	0	Calm	.....	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	48	8.9	48	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.11	739.4	29.85	758.2	31	— 0.6	89	SW	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.16	740.7	29 85	758.2	14	—10.0	82	N	5	2.2	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Florence, Arizona	28.54	724.9	30.14	765.5	37	2.8	71	N	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	21	— 6.1	71	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	52	11.1	48	SW	9	4.0	.....	2k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.24	742.7	29.78	756.4	47	8.3	85	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.54	724.9	29.80	756.9	50	10.0	45	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	.....	.....	.....	.....	20	— 6.7	.....	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.58	700.5	29.44	747.8	60	15.6	55	SW	8	3.6	.....	5k	0	SE	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.57	725.7	29.70	754.4	34	1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.19	716.0	29.74	755.4	55	12.8	81	Calm	0	0	.....	0	8ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.00	762.0	30.04	763.0	56	13.3	81	S	9	4.0	.....	2k	1	Calm	.....	0	0	Clear	
Graham, Texas	28.74	730.0	29.80	756.9	42	5.6	74	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.06	738.1	29.73	755.1	28	— 2.2	66	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	28.97	735 8	29.75	755.6	41	5.0	57	SW	5	2.2	.....	5cs	0	W	.....	0	0	Fair	
Indianola, Texas	30.00	762.0	30.02	762.5	57	13.9	87	S	11	4.9	.....	0	1s	.....	S	0	0	Clear	
Jacksboro, Texas	28.65	727.7	29.78	756.4	44	6.7	76	S	13	5.8	.....	2cs	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.29	769.4	30.32	770.1	45	7.2	84	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	28.97	735.8	29.59	751.6	34	1.1	79	S	4	1.8	.....	2c	4s	W	W	0	0	Fair	
Key West, Florida	30.22	767.6	30.26	768.6	58	14.4	82	NE	11	4.9	.....	0	2s	.....	Calm	0	0	Clear	
Kittyhawk North Carolina	30.03	762.8	30.06	763.5	40	4.4	73	SW	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.10	739.1	30.14	765.5	42	5.6	54	W	4	1.8	.....	0	Haze	.....	.....	0	0	Smoky	
La Crosse, Wisconsin	28.88	733.5	29.63	752.6	30	— 1.1	78	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	28	— 2.2	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.53	750.0	29.88	758.9	52	11.1	86	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Leavenworth, Kansas	28.75	730.2	29.60	751.8	36	2.2	71	SW	3	1.3	.....	.....	8s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.77	756.1	30.12	765.0	42.2	5.7	74	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.33	745.0	29.89	759.2	45	7.2	53	S	9	4.0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.29	744.0	29.98	761.5	45	7.2	60	SW	2	0.9	.....	2cs	0	Calm	.....	0	0	Clear	
Madison, Wisconsin	28.65	727 7	29.65	753.1	30	— 1.1	78	E	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.10	739.1	29.84	757.9	17	— 8.3	67	Calm	0	0	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Mason, Texas	28.28	718.3	30.07	763.8	45	7.2	84	NW	4	1.8	.....	2k	0	NW	.....	0	0	Fair	
Memphis, Tennessee	29.69	754.1	30.01	762.2	50	10.0	77	SW	9	4.0	.....	0	5ks	.....	SW	0	0	Fair	
Milwaukee, Wisconsin	28.96	735.6	29.70	754.4	34	1.1	90	E	19	8.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Mobile, Alabama	30.19	766.8	30.23	767.8	41.5	5.3	95	S	1	0.4	.....	1c	2s	W	SW	0	0	Fair	
Montgomery, Alabama	29.98	761.5	30.22	767.6	42	5.6	83	S	1	0.4	.....	8k	0	W	.....	0	0	Fair	
Morgantown, West Virginia	28.82	732.0	29.88	758.9	44	6.7	52	S	3	1.3	.....	2cs	2s	Calm	Calm	0	0	Fair	
Mt. Washington, N. H.	22.94	582.7	29.30	744.2	0	—17.8	100	NW	105	46.9	.....	.....	10n	.....	NW	0.20	5.1	Light snow	
Nashville, Tennessee	29.49	749.0	30.04	763.0	43	6.1	67	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
New Haven, Connecticut	29.72	754.9	29.84	757.9	34	1.1	70	W	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
New London, Connecticut	29.78	756.4	29.84	757.9	31	— 0.6	69	W	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	50	10.0	86	SE	4	1.8	.....	0	5ks	.....	S	0	0	Fair	
Newport, Rhode Island	29.76	755.9	29.62	757.4	34	1.1	70	W	13	5.8	.....	0	0	.....	.....	0.01	0.3	Clear	
New York, New York	29.70	754.4	29.88	758.9	29	— 1.7	78	SW	7	3.1	.....	Haze	2s;hz	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	29.95	760.7	30.01	762.2	45	7.2	53	SW	12	5.4	.....	0	Haze	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Correcte for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	26.91	683.5	29.50	749.3	37	2.8	63	NW	14	6.3	.....	0	5s	.....	Calm	0	0	Fair	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	33.2	0.7	89	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.45	722.6	29.54	750.3	36	2.2	71	NW	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.50	749.3	29.82	757.4	32	0.0	79	NW	16	7.2	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Pembina, Dakota	29.00	736.6	29.93	760.2	— 5	—20.6	100	Calm	0	0	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Philadelphia, Pa	29.83	757.7	29.88	758.9	34	1.1	90	Calm	0	0	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Phœnix, Arizona	28.92	734.6	30.78	781.8	44	6.7	37	E	.....	.....	1	.....	10s;sme	.....	W;Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.54	445.5	29.74	755.4	8	—13.3	33	W	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.10	612.1	29.87	758.7	30	— 1.1	57	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.04	737.6	29.86	758.4	40	4.4	65	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.11	739.4	29.80	756.9	28	— 2.2	88	NE	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Portland, Maine	29.64	752.8	29.69	754.1	18	— 7.8	84	W	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	30.09	764.3	30.20	767.1	35.5	1.9	90	E	3	1.3	.....	5k	0	W	.....	0.04	1.0	Fair	
Prescott, Arizona	24.75	628.6	30.11	764.8	24	— 4.4	74	N	1	0.4	.....	.....	10s	.....	Calm	0.52	13.2	Cloudy	
Pilot Point, Texas	29.05	737.9	29.91	759.7	30	— 1.1	60	SE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.31	769.9	30.33	770.4	50	10.0	79	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.80	756.9	30.18	766.6	37	2.8	71	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.82	757.4	30.04	763.0	55	12.8	87	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Cloudy	
Rochester, New York	29.20	741.7	29.82	757.4	30	— 1.1	78	W	1	0.4	.....	.....	10s	.....	W	0	0	Fair	
Roseburg, Oregon	29.53	750.0	30.11	764.8	41.0	5.0	100	Calm	0	0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Sacramento, California	30.06	763.5	30.15	765.8	39.6	4.2	87	N	3	1.3	.....	0	2s	.....	W	0.65	16.5	Cloudy	
St. Louis, Missouri	29.18	741.2	29.75	755.6	46	7.8	54	S	13	5.8	.....	2k	0	SW	.....	0	0	Fair	
St. Marks, Florida	30.27	768.8	30.29	769.4	34	1.1	100	SW	1	0.4	.....	1c	5s;fog	Calm	Calm	0	0	Fair	
St. Paul, Minnesota	28.78	731.0	29.62	752.3	25	— 3.9	88	N	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	26	— 3.3	75	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.30	744.2	29.90	759.4	46	7.8	92	S	1	0.4	.....	2c	0	Calm	.....	0	0	Fair	
San Diego, California	30.06	763.5	30.13	765.3	42.0	5.6	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.15	740.4	29.83	757.7	34	1.1	79	S	5	2.2	.....	5c	Haze	Calm	Calm	0	0	Fair	
Sandy Hook, New Jersey	29.85	758.2	29.88	758.9	29	— 1.7	78	W	11	4.9	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
San Francisco, California	30.06	763.5	30.13	765.3	46	7.8	88	Calm	0	0	.....	Haze	0	Calm	.....	0	0	Clear	
Santa Fé, New Mexico	23.22	589.8	29.76	755.9	21	— 6.1	57	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.17	766.3	30.27	768 8	46	7.8	84	SW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.80	756.9	30.02	762.5	52	11.1	93	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Silver City, New Mexico	24.30	617.2	30.62	777.7	36	2.2	80	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.17	766.3	30.21	767.3	47	8.3	85	W	11	4.9	.....	0	Haze	.....	Calm	0	0	Hazy	
Springfield, Massachusetts	29.76	755.9	29.89	759.2	26	— 3.3	63	S	4	1.8	.....	2ck	0	NW	.....	0.02	0.5	Fair	
Stockton, Texas	26.61	675.9	29.61	752.1	54	12.2	93	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.72	754.9	29.78	756.4	31	— 0.6	69	SW	16	7.2	.....	10k	0	W	.....	0.10	2.5	Cloudy	
Toledo, Ohio	29.09	738.9	29.79	756.7	31	— 0.6	89	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	37	2.8	54	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.25	768.3	30.28	769.1	48	6.1	92	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.81	757.2	30.34	770.6	26.0	— 3.3	88	E	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	29	— 1.7	89	SW	.....	.....	7	.....	10s	.....	SW	0.08	2.0	Cloudy	
Uvalde, Texas	29.07	738.4	29.90	759.4	51	10.6	79	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.88	758.9	30.14	765.5	51	10.6	79	S	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.12	612.6	29.60	751.8	27	— 2.8	64	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.77	656.1	30.16	766.1	37.5	3.1	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.79	756.7	29.91	759.7	38	3.3	72	S	6	2.7	.....	0	8s	.....	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	32	0.0	59	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.09	764.3	30.17	766.3	46	7.8	54	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.72	653.3	30.08	764.0	33	0.6	70	S	12	5.4	.....	0	5s	.....	Calm	0	0.	Fair	
Wood's Holl, Mass	29.75	755.6	29.79	756.7	36	2.2	80	W	10	4.5	.....	2c	5s	Calm	Calm	Inap.	Inap.	Cloudy	
Yankton, Dakota	28.44	722.4	29.78	756.4	22	— 5.6	72	NW	12	5.4	.....	5cs	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.92	760.0	30.09	764.3	43	6.1	36	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.22	716.8	29.61	752.1	49	9.4	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.18	766.6	30.23	767.8	63	17.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.20	767.1	30.21	767.3	73	22.8	85	Calm	0	0	.....	2c	2s	NE	Calm	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.98	761.5	30.06	763.5	76	24.4	83	NE	14.5	6.5	.....	.....	.....	.....	.....	0	0	Fair	C. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	81	27.2	.....	NE	.....	.....	3	5k	7ks	E	.....	0.020	0.51	½ clouded	C. J. Herine.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.86	758.4	29.92	760.0	—28.0	—33.3	.....	W	4	1.8	.....	3k	4s	W	W	0	0	Cloudy	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 metres; Fismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,883 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Grahan, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.07	763.8	45	7.2	43	6 1	83	ESE	2	0.9	.....	.....	10	.....	E	0	0	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.35	771.1	48	8.9	48	8.9	85	NE	2	0.9	.....	.....	8	.....	SW	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.10	739.1	49	9.4	18	— 7.8	Inap.	WNW?	0?	0?	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan *	30.05‡	763.3‡	.....	.....	45.2	7.3	77	Calm	.....	.....	0	.....	10n	.....	SW	Inap	Inap.	.....	.....	Light rain ...	
Alaska, N 7° 40′, W. 79° 51′	30.00	762.0	79	26.1	78	25.6	82	N	.....	.....	5	.....	2	.....	S	0	0	Smooth	.....	Hazy	
Alliance, Smyrna, Turkey	30.39‡	771.9‡	.....	.....	45	7.2	54	ENE	.....	.....	1–2	.....	3	.....	N;E	.....	.....	.....	.....	Misty.....	
Ashuelot, N. 10° 20′, E. 107° 04′	30.01	762.2	81	27.2	80	26.7	78	ENE	.....	.....	3	.....	5	.....	ENE	.....	.....	Smooth	....	Fair...	
Canonicus, New Orleans, La	30.14	765.5	42	5.6	48	8.9	100	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Colorado, New York, N. Y.	29.82	757.4	28	— 2.2	28	— 2.2	100	WSW	4	1.8	.....	.....	2	.....	WNW	0	0	.....	.....	Hazy.....	
Constitution, Portsmouth, England	29.91‡	759.7‡	.....	.....	32	0.0	79	ENE	14	6.3	.....	.....	8	.....	ENE	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	30.52‡	775.2‡	.....	.....	38	3.3	72	NNW	.....	.....	2	.....	2	.....	NNW	.....	.....	.....	.....	Fair.....	
Essex, S. 42° 16′, W. 60° 52′	29.94	760.5	65	18.3	64	17.8	100	NW	.....	.....	4	.....	10	.....	NW	.....	.....	Smooth	NW	Overcast.....	
Franklin, Norfolk, Va.	30.16	766.1	71	21.7	47	8.3	48	SW	18	8.0	.....	.....	2	.....	SW	0	0	.....	.....	Clear.....	
Gettysburg, Genoa, Italy	30.02‡	762.5‡	.....	.....	35	1.7	79	N	.....	.....	5–6	.....	10	.....	N	0.11	2.8	.....	.....	Raining.....	
Hartford, Montevideo, Uruguay	30.01	762.2	78	25.6	78	25.6	69	NNE	18	8.0	.....	.....	8	.....	NNE	0	0	Smooth	.....	Cloudy.....	
Lackawana, Panama *	29.72‡	754.9‡	.....	.....	76	24.4	95	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.90†	759.4†	.....	.....	30	— 1 1	79	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Monocacy Kobe, Japan *	29.92‡	760.0‡	.....	.....	52	11.1	86	NE	.....	.....	3–4	.....	10	.....	NE	.....	.....	.....	.....	Rainy.....	
Monongehela, Yokohama, Japan	30.08‡	764.0‡	.....	.....	43	6.1	100	NNW	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
New Hampshire, Port Royal, S. C.	30 35†	770.9†	.....	.....	45	7.2	84	SW	12	5.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru	30.02†	762.5†	.....	.....	70	21.1	90	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	30.68	779.3	21	- 6.1	13	—10.6	100	ENE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	41	5.0	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Panama	29.86‡	758.4‡	.....	.....	77	25.0	91	NW	2	0.9	.....	.....	0	.....	.....	0	0	Smooth	NW	Hazy.....	
Powhatan, Norfolk, Va.	30.04	763.0	47	8.3	47	8.3	55	SW	3.0	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, N. 36° 28′, W. 43° 46′	30.25‡	768.3‡	.....	.....	65	18.3	74	WSW	.....	.....	5	.....	8	.....	WSW	.....	.....	Mod'ate	WSW	Cloudy.....	
Ranger, Yokohama, Japan	30.13‡	765 3†	.....	.....	49	9.4	85	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	Smooth	.....	Overcast... ...	
Richmond, N. 36° 06′, W. 38° 19	30.28‡	769.1‡	.....	.....	64	17.8	94	SSE	.....	.....	5	.....	2	.....	.....	.....	.....	Smooth	WNW	Clear	
Rio Bravo, Brownsville, Texas	29.97	761.2	63	17.2	58	14.4	94	S	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Fair	
Sarnoe, Annapolis, Md	29.88‡	758.9‡	.....	.....	44	6.7	53	W	.....	.....	1	.....	10	.....	NW	0	0	.....	.....	Overcast	
St. Louis, League Island, Pa	29.82	757.4	62	16.7	27	— 2.8	.....	SW	.....	.....	3	.....	8	.....	WSW	0	0	.....	.....	Cloudy.....	
Supply, N. 43° 05′, W. 14° 29′	29.77‡	756.1‡	.....	.....	53	11.7	93	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Heavy	NE	Squally.....	
Trenton Villafranca, France *	29.96‡	761.0‡	.....	.....	55	12.8	74	NW	.....	.....	0–1	.....	10	.....	Calm	0	0	... ...	.....	Overcast.....	
Tuscarora, Panama	29.94‡	760.5‡	.....	.....	76	24.4	91	NNW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.	29.78‡	756.4‡	.....	.....	31	— 0.6	89	W	8	3.6	.....	.....	8	.....	.....	0	0	.....	.....	Fair...	
Wyoming, Naples, Italy	30.38	771.6	70	21.1	57	13.9	94	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

*The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Low'r 0–10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 24° 19′, W. 112° 00′		30.00*	762.0*	66	18.9	84	NNW			2–3		0				Small	WNW	Blue sky	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.79	756.7				Calm			0				NE				Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. *Aneroid.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 37° 10′, W. 125° 30′		30.00*	762.0*	54	12.2	100	S			4		ks		SE		Mod'ate	SE	Misty	J. A. Thompson, 2d Off
S. S. Gaelic, N. 45° 10′, W. 160° 00′		30.43†	772.9†	43	6.1	92	NW			5		k		NW	0	Mod'ate	W	Gloomy	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 43° 43′ W. 20° 10′		30.00	762.0	59.0	15.0	82	NNE			6		8		NE	0	High	NE	Fine	L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 46° 54′, W. 46° 59′		29.89*	759.2*	32	0.0	90	NNW			5		4		NW	0	Mod'ate	SW	Partly clo'dy	Captain Sargent.
S. S. Ohio, N. 46° 20′, W. 42° 38′		29.43†	747.5†	39	3.9	90	N			6		5?		NNW	Blank	Cross	SSW; N	Cloudy?	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 45° 12′, W. 59° 18′		29.78*	756.4*	20	— 6.7		SSW			5		8		SW	0	Small	SW	D. clouds	Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.																			
Furnished by the cooperation of the Observer named.																			
Schooner Addie Fuller, Orient, Long Island		29.77	756 1	33	0.6	70	NW	8	3.6			2s		NW	0.01in. or 0.3 mm.			Clear	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

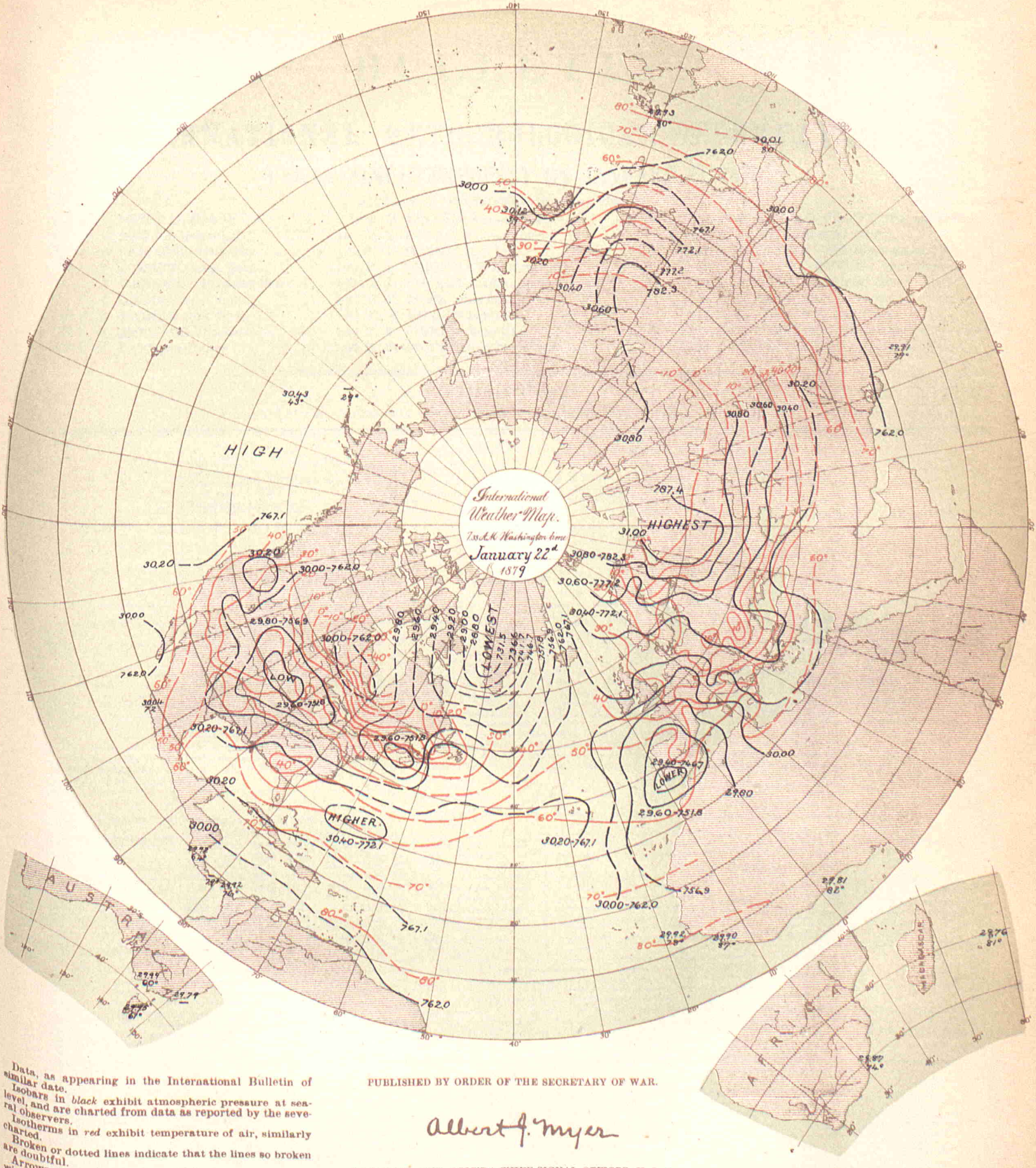
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 23, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.01	762.2	59.4	15.2	83	SW	.....	.....	3	.....	9	.....	.....	0.571	14.5	Covered	
Nemours	.....	.....	29.74	755 3	64.2	17.9	72	WNW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.71	754.7	73.4	23 0	27	S	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	Touriliere.
La Calle	.....	.....	29.92	759.9	72.7	22.6	52	S	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	30.12	765.0	69.4	20.8	33	SW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy.....	Jacques.
Sfax	.....	.....	30.13	765.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.71	754.6	66.2	19.0	3	S	.....	.....	7	.....	5	.....	.....	0	0	Cloudy.....	Herbin.
Tebessa	.....	.....	30.02	762.6	65.7	18.7	17	SE	.....	.....	4	.....	2	.....	.....	0	0	Fair.....	Watrin.
Geriville	.....	.....	29.79	756.6	51.4	10.8	97	S	.....	.....	6	.....	5	.....	.....	0	0	Cloudy.....	Brugniaux.
Laghouat	.....	.....	29.89	759.2	58.3	14.6	30	S	.....	.....	4	.....	2	.....	.....	0.118	3.01	Fair.....	Bertrand.
Biskra	.....	.....	29.91	759.6	69.6	20.9	17	SE	.....	.....	5	.....	5	.....	.....	0	0	Cloudy.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.71	754.6	30.28	769.1	39.9	4.4	83	.....	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.30	744.1	30.08	764.1	42.4	5.8	79	SSE	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.39	746.5	30.32	770.1	32.0	0.0	74	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.87	733.4	30.18	766.5	37.9	3.3	83	W	.....	.....	1	.....	5	.....	.....	0	0	.....	Andreas Rospini
Hermannstadt	28.95	735.4	30.51	775.0	21.4	— 5.9	90	W	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.55	725.1	29.96	761.0	28.0	— 2.2	98	NE	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.28	743.6	30.35	770.8	21.9	— 5.6	96	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.09	764.2	30.20	767.1	55.8	13.2	89	SE	.....	.....	3	.....	10	.....	.....	0.150	3.8	.....	I.R.Hydrographic Office.
Szathmar	29.94	760.4	30.43	772.8	37.0	2.8	66	SE	.....	.....	2	.....	9	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	30.00	762.1	30.30	769.6	33.8	1.0	.....	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.08	764.0	30.18	766.6	52.2	11.2	86	ESE	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Rain and fog	P. Busin.
Vienna	29.31	744.4	30.06	783.5	32.7	0.4	92	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.07	763.8	30.18	766.6	32.0	0.0	.....	SW	17	7.6	.....	.....	3	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.19	766.8	30.21	767.3	35	1.7	.....	SSW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	30.23	767.8	31.1	— 0.5	.....	ENE	2	0.9	.....	.....	5	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.18	766.6	30.0	— 1.1	.....	NE	8	3.6	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Bolton	.....	.....	30.16	766.1	29.6	— 1.3	.....	ENE	6	2.7	.....	.....	5	.....	.....	.....	.....	Blue sky.....	Thomas Mackereth.
Bradford, Yorkshire	29.76	755.9	30.15	765.8	30.5	— 0.8	.....	E	.....	.....	2	.....	5	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	80.0	26.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	30.07	763.8	31.0	— 0.6	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [C.
Cardington	.....	.....	30.13	765.3	29.4	— 1.4	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E.	29.88	758.9	30.02	762.5	30.2	— 1.0	.....	NE	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Davis.
Dartmoor	28.41	721.6	29.95	760.7	26.0	— 3.3	.....	E	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds..	Alexander Watt.
Donaghadee	30.16	766.1	30.21	767.3	33	0.6	.....	ESE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.92	760.0	29.94	760.5	31	— 0.6	.....	ENE	.....	.....	5	.....	7	.....	.....	.....	.....	Squally.....	J. Costello.
Falmouth, Observatory	29.80	756.9	30.04	763.0	29.8	— 1.2	.....	NE	.....	.....	4	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.58	700.5	29.90	759.4	72.0	22.2	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	86	30.0	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.15	765.8	34	1.1	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.58	751.3	29.63	752.6	58.9	14.9	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.98	761.5	30.19	766.8	30.8	— 0.7	.....	ESE	.....	.....	2	.....	.....	.....	.....	.....	.....	Snowing.....	D. G. Maclean.
Great Yarmouth	30.05	763.3	30.06	763.5	32	0.0	.....	ENE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.86	758.4	30.04	763.0	28.9	— 1.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.. ..	The Staff, for G. B. Airy
Guernsey	29.69	754.1	29.92	760.0	33.5	0.8	.....	NNE	.....	.....	5	.....	8	.....	.....	.....	.....	Gloomy	Dr. S. E. Hoskins, F.R.S.
Helston	29.94	760.5	30.06	763.5	32	0.0	.....	NE	.....	.....	2	.....	4k	.....	.....	0	0	Fair.....	M. P. Moyle.
Holyhead	30.10	764.5	30.16	766.1	34	1.1	.....	E	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.61	752.1	29.92	760.0	34.1	1.2	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	30.00	762.0	30.04	763.0	30.1	— 1.1	.....	NE	26	11.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Leicester, Museum	29.85	758.2	30.12	765.0	31.8	— 0.1	.....	E	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.26	768.6	30.33	770.4	66	18.9	.....	SE	.....	.....	1	.....	3ck	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	30.02	762.5	30.12	765.0	35	1.7	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.. ..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.19	766.8	72.5	22.5	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	C. S. Dancombe.
Nottingham, Observatory	29.94	760.5	30.14	765.5	31.6	— 0.2	.....	NE	.....	.....	4	.....	10n	.....	.....	.....	.....	Snowing.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.57	751.1	30.12	765.0	31.0	— 0.6	.....	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.09	764.3	30	— 1.1	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.93	760.2	30.01	762.2	30.7	— 0.7	.....	NE	.....	.....	5	.....	2	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	30.10	764.5	30.14	765.5	35	1.7	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	29.94	760.5	30.12	765.0	32	0.0	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.13	765.3	33.2	0.7	.....	S	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	30.55	776.0	40.6	4.8	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	29.88	758.9	30.18	766.6	31.3	— 0.4	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	W. F. Cooper.
Silloth Rectory	30.08	764.0	30.11	764.8	30.6	— 0.8	85	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	F. H. Redford.
Stonyhurst Observatory	29.77	756.1	30.18	766.6	29.5	— 1.4	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Strathfield Turgiss	.....	.....	.....	.....	29.6	— 1.4	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. C. H. Griffith, F.M.S
Thurso	30.03	762.8	30.10	764.5	30	— 1.1	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro Royal Institution	.....	.....	30.03	762.8	34	1.1	.....	NE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	30.09	764.3	30.12	765.0	35.4	1.9	.....	ENE	23	10.3	.....	.....	3	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.83	757.7	68	20.0	79	SE	.....	.....	2	.....	10kn	.....	.....	0	0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.22	767.6	32.0	0.0	.....	W	.....	.....	1	.....	10k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.54	750.3	29.72	754.9	85.2	29.6	53	S	15.5	6.9	.....	0	3	.....	SSE	0.01	0.3	Fine.....	C. Meldrum.
Melbourne, Observatory	29.75	755.6	29.84	757.9	63.8	17.7	89	SSW	10	4.5	.....	.....	10	.....	.....	0.09	2.3	Dull.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.13	765.3	42	5.6	.....	SW	.....	.....	4	5	5	SW	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.00	762.0	40	4.4	.....	SW	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time: Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Brig Catherine	.....	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12: the distinction between upper and lower clouds is made as to direction but not as to amount: the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.19	665.2	29.91	759.7	59.9	15.5	89	SE	.....	.....	2	.....	.....	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and it, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.09	764.3	30.14	765.5	23.7	— 4.6	88	ENE	.....	.....	4	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	30.17	766.6	30.19	766.7	16.9	— 8.4	94	N	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.48	748.7	29.52	749.8	17.2	— 8.2	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faroe)	29.96	760.9	29.98	761.8	34.5	1.4	96	S	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.04	763.1	30.21	767.4	17.6	— 8.0	71	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.6	29.87	758.6	28.8	— 1.8	96	NE	.....	.....	3	.....	10	.....	.....	0.370	9.4	Covered	Collignon, Director.
Amiens, Normal School	29.79	756.6	29.91	759.6	28.0	— 2.2	87	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.74	755.4	29.82	757.4	58.6	14.8	56	SE	.....	.....	5	.....	10	.....	SSW	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.22	742.3	29.81	757.2	35.8	2.1	95	W	.....	.....	1	.....	10	.....	.....	0.602	15.3	Covered	C. Saillard, Director.
Beauvais, Normal School	29.61	752.2	29.92	760.0	25.7	— 3.5	.....	NNE	.....	.....	1	.....	10	.....	.....	0.16	4.	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.94	735.1	29.86	758.4	39.9	4.4	83	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.93	734.8	29.83	757.7	51.3	10.7	75	SE	.....	.....	1	.....	10kn	W	W	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.60	751.9	29.85	758.1	38.1	3.4	66	NE	.....	.....	3	.....	9	.....	NE	0.039	1.00	.....	M. de Rermaur, Director.
Carcassonne, Normal School	29.31	744.4	29.72	754.8	55.4	13	88	E	.....	.....	3	.....	5	E	E	0	0	Cloudy	September, Director.
Caen, Normal School	29.80	756.8	29.87	758.7	32.0	0	70	N	.....	.....	4	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.26	743.2	29.86	758.4	27.3	— 2.6	87	N	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.48	748.9	29.82	757.5	28.8	— 1.8	.....	N	.....	.....	1	.....	10	.....	.....	0.665	16.9	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs'y	28.38	720.8	29.72	754.8	55.4	13.0	53	N	.....	.....	2	.....	10	.....	S	0	0	Covered	Alluard, Director.
Commercy, Normal School	29.93	734.8	29.82	757.4	35.4	1.9	96	E	.....	.....	1	.....	10ns	.....	E	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	29.80	731.5	29.94	760.5	52.9	11.6	69	E	.....	.....	6	.....	10	.....	SE	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	29.04	737.7	29.83	757.7	41.0	5	97	ENE	.....	.....	1	.....	10n	.....	S	0	0	Covered	M. Ablard, Director.
La Rochesur-Yon, N. School	29.53	750.0	29.75	755.7	31.3	— 0.4	96	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Light rain	Mouillot, Director.
Le Mans, Normal School	29.53	750.1	29.85	758.3	29.5	— 1.4	96	NNE	.....	.....	2	.....	10	.....	.....	0.539	13.7	Covered	Pourrier, Director.
Lons-Le-Saulnier, N. School	28.88	733.5	29.79	756.6	53.4	11.7	66	S	.....	.....	4	.....	5	.....	W	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.75	755.6	29.85	758.1	35.2	1.8	85	NNE	.....	.....	4	.....	.....	.....	NE	0.276	7.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	V. Galzin, Director
Mirecourt, Normal School	28.74	730.0	29.81	757.1	42.1	5.5	85	NE	.....	.....	3	.....	km	.....	SW	0.79	20.	.....	M. Barbier, Director.
Nismes Normal School	29.63	752.6	29.83	757.7	56.8	13.8	64	W	.....	.....	2	.....	5	.....	W	0	0	Cloudy	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.89	632.1	.....	.....	35.2	1.8	100	S	.....	.....	8	.....	10	.....	.....	0.008	0.2	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.68	753.8	29.71	754.6	38.5	3.6	100	SE	.....	.....	1	.....	10	SE	SE	0.35	9.	Raining	Lt. Decante, Director.
Rouen, Normal School	29.80	756.9	29.89	759.1	27.9	— 2.3	70	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.83	757.6	29.86	758.4	36.0	2.2	66	NE	.....	.....	3	.....	10	NNE	NNE	0	0	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.69	754.1	29.85	758.3	25.3	— 3.7	85	N	.....	.....	1	.....	10	.....	.....	0.571	14.5	Snowing	E. Renou, Director.
Tarbes, Normal School	28.61	726.7	29.68	753.9	53.6	12	54	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.08	738.6	29.80	757.0	46.4	8	64	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.5	30.01	762.2	75.9	24.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchés.
Lyons, Observatory	.....	.....	29.76	755.8	56.1	13.4	57	SE	.....	.....	1	.....	9cn	.....	.....	0	0	.....	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.59	624.6	29.91	759.6	44.2	6.8	55	SW	7.4	3.3	.....	.....	2	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	30.02	762.6	56.8	13.8	78	SSE	.....	.....	4	.....	10	.....	.....	0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.57	751.1	.....	.....	24.3	— 4.3	88	N	.....	.....	3	.....	10	.....	.....	0.449	11.4	Snowing	Marié Davy, Director
Perpignan	29.63	752.7	29.74	755.4	56.8	13.8	86	S	1.8	0.8	.....	.....	8	.....	S	Inap.	Inap.	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.20	564.0	.....	.....	30.2	— 1.0	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Cloudy	Capt de Nansouty.
Toulouse, Observatory	28.99	736.4	29.71	754.6	56.5	13.6	84	SSE	.....	.....	4	.....	8	.....	.....	0	0	.....	M. Mercadier Julien.
Tours	29.61	752.0	29.80	757.0	29.7	— 1.3	.....	ENE	.....	.....	1	.....	10	.....	.....	0.843	21.4	Raining	Cousin-Marquet.
Versailles, Observatory	.....	.....	29.84	758.0	25.2	— 3.8	.....	ENE	.....	.....	2	.....	10	.....	.....	0.007	0.17	Covered	Dr. A. Bérigny, Director
Zi-Ka-Wei, (near Shanghai)	30.54	775.6	29.56	776.3	26.6	— 3.0	86	NW	16.8	7.5	.....	.....	10	.....	.....	0	0	Covered	Marc Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–1.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.0	29.89	759.3	34.7	1.5	67	SW	.....	.....	2	.....	4	SW	.....	0.071	1.8	.....	Prof. Dr Hoh.
Berlin	29.84	757.9	30.02	762.6	19.4	— 7.0	87	N	.....	.....	1	.....	10	.....	.....	0.287	7.3	Snowing	Prof. Arndt.
Breslau	29.47	748.6	30.00	762.1	28.6	1.9	70	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Royal University Obs'y
Carlsruhe	29.40	746.8	29.84	758.0	33.4	0.8	78	E	.....	.....	1	.....	10	SW	.....	0.094	2.4	Rain & fog	Albert Senz.
Cassel	29.24	742.8	29.85	758.1	25.5	— 3.6	84	NE	.....	.....	1	.....	10	N	.....	0.056	1.42	Snowing	Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	21.6	— 5.8	87	NE	.....	.....	4	.....	9	.....	.....	0.16	4.	Light snow	Director Lose.
Emden	.....	.....	.....	.....	26.8	— 2.9	88	NE	.....	.....	5	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.49	749.1	29.87	758.7	31.5	— 0.3	.....	NE	.....	.....	0	.....	10	.....	.....	0.322	8.2	.....	Physical Society.
Friedrichshafen	28.43	722.1	29.91	759.6	37.4	3.0	70	S	.....	.....	2	.....	7	SSW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.99	761.7	30.07	763.6	24.3	— 4.3	91	ENE	.....	.....	4	.....	10	.....	.....	0	0	Foggy	Captain F. Hegemann
Kiel	30.07	763.8	30.09	764.2	27.1	— 2.7	78	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.12	765.1	30.21	767.4	19.2	— 7.1	90	SE	.....	.....	4	.....	10	.....	.....	0.091	2.3	Snowing	Prof. E. Luther.
Köslin	.....	.....	30.02	762.5	21.2	— 6.0	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.55	750.6	30.00	762.0	23.0	— 5.0	93	NNE	.....	.....	1	.....	10	.....	.....	0.173	4.4	.....	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.23	767.9	30.28	769.1	16.9	— 8.4	88	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	Skalweit.
Neufahrwasser	30.11	764.9	30.13	765.3	22.6	— 5.2	80	SE	.....	.....	3	.....	10	.....	.....	0.232	5.9	Snowing	A. Lothes.
Posen	29.74	755.4	30.04	763.1	32.0	0.0	93	SE	.....	.....	5	.....	10	.....	.....	0.075	1.9	Raining	Dr. Magener.
Strassburg (in Alsace)	29.30	744.1	29.87	758.6	35.4	1.9	94	Calm	.....	.....	0	.....	10	SW	.....	.....	.....	.....	Imp. University Observatory.
Stuttgart	28.88	733.5	29.87	758.6	35.6	2.0	96	N	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.36	720.4	29.93	760.3	32.5	0.3	84	Calm	0	0	.....	.....	10	.....	.....	0	0	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.02	762.5	30.04	763.1	25.3	— 3.7	100	NE	.....	.....	2	.....	10ks	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	30.13	765.3	30.53	775.5	48.4	9.1	.....	NE	.....	.....	2.5	.....	.....	.....	.....	.....	.....	⅛ Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.4	30.07	763.7	76.1	24.5	12	ENE	.....	.....	.....	.....	1	.....	.....	0	0	D. clouds	
Deesa	29.52	749.9	30.01	762.2	76.3	24.6	17	NE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.89	759.3	29.93	760.2	78.1	25.6	76	NNW	18.0	8.0	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.91	709.0	29.92	759.9	78.8	26.0	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.29	744.0	30.07	763.8	59.4	15.3	29	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.40	695.8	29.93	760.2	77.7	25.4	62	Calm	0	0	.....	.....	7	.....	.....	0	0	Blue sky	
Roorkee	29.07	738.4	30.01	762.2	62.8	17.1	28	Calm	3.6	1.6	.....	.....	0	.....	.....	0	0	D. clouds	
Agra	29.48	748.8	30.07	763.8	61.8	16.6	38	W	.....	.....	.....	.....	.....	.....	.....	0	0	Blue sky	
Nagpur	28.93	734.9	29.99	761.6	77.9	25.5	28	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	.....	
Lucknow	29.64	752.7	30.02	762.6	63.9	17.7	27	NW	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.72	754.8	30.04	763.0	60.0	15.6	49	Calm	3.3	1.5	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.82	757.5	30.01	762.2	68.2	20.1	27	W	2.4	1.1	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.94	709.8	30.03	762.6	62.8	17.1	29	WNW	8.7	3.9	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.91	759.7	30.00	761.9	74.5	23.6	42	Calm	1.1	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.99	761.8	30.02	762.4	63.4	17.4	57	N	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	.....	.....	.....	.....	66.7	19.3	45	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.89	759.1	29.98	761.6	67.6	19.8	52	Calm	3.9	1.7	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.66	753.4	30.01	762.2	62.1	16.7	81	N	0.4	0.2	.....	.....	0	.....	.....	0	0	Blue sky	
Jubbulpore	28.65	727.6	30.04	763.1	70.8	21.6	42	N	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Udine	29.80	756.9	30.22	767.6	43.2	6.2	97	NE	0.7	0.3	.....	.....	10	.....	.....	0.929	23.6	.....	Prof. Giovanni Clodig.
Padua	30.10	764.5	30.21	767.4	39.4	4.1	98	NE	3.1	1.4	.....	.....	10	.....	.....	0.547	13.9	.....	Prof. Dott. Lorenzoni
Milan	29.67	753.5	30.21	767.4	34.5	1.4	93	W	.....	.....	1	.....	10	.....	.....	0.134	3.4	.....	Prof. Schiaparelli.
Moncalieri	29.29	743.9	30.23	767.9	34.2	1.2	89	N	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.23	717.1	30.21	767.3	35.1	1.7	69	WSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.92	760.0	30.12	765.0	43.3	6.3	85	NE	10.5	4.7	.....	.....	10	SE	.....	0.453	11.5	.....	Prof. G. M. Garibaldi.
Florence	29.87	758.6	30.13	765.3	53.6	12.0	83	NE	.....	.....	2	.....	10	S	.....	0.004	0.1	.....	Cav. F. Meucci
Leghorn	30.00	761.9	30.08	764.1	58.1	14.5	80	SE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.17	766.4	30.23	767.7	38.3	3.5	98	NE	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	30.01	762.3	30.19	766.8	62.1	16.7	66	S	18.6	8.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	30.14	765.5	30.40	772.1	58.1	14.5	71	SW	18.1	8.1	.....	.....	9	S	.....	0.016	0.4	.....	Prof. C. De Giorgi.
Cagliari	29.81	757.2	30.00	762.1	62.2	16.8	68	SE	.....	.....	2	.....	7	S	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.44	747.7	30.35	770.8	53.6	12.0	72	NE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.93	760.3	30.19	766.9	66.0	18.9	38	SW	8.1	3.6	.....	.....	10	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.32	770.2	30.40	772.2	59.4	15.2	83	NNE	9.8	4.4	.....	.....	10	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.74	755.3	30.29	769.4	59.0	15.0	71	WSW	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.17	766.3	30.19	766.8	38.4	3.6	80	N	1.9	0.9	.....	.....	2cl;s	.....	.....	0	* 0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.98	761.5	30.19	766.8	41.8	5.4	79	NE	3.5	1.6	.....	.....	1s	.....	.....	0	0	Fair	S. Takehayashi.
Tokei (Yeddo) Observatory	29.87	758.7	29.94	760.5	40.9	4.9	63	NNE	15.6	7.3	.....	.....	1s	.....	.....	0.010	0.25	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.10	637.4	30.34	770.5	38.8	3.8	59	SW	.....	.....	1	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.46	621.5	30.16	766.2	48.6	9.2	74	SE	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.8	30.26	768.7	42.4	5.8	78	N	6.7	3.0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	46.9	8.3	53	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.02	762.6	30.04	762.9	64.4	18.0	96	Calm	.....	.....	0	4	1	.....	N	0	0	½ clouded	M. M. Cházaro.
San Luis Potosi	24.24	615.7	30.23	767.8	41.0	5.0	82	NNE	.....	.....	1	3	0	N	.....	0	0	.....	G. Barroeta, M. D.
Vera-Cruz	30.03	762.8	30.06	763.5	53.6	12.0	80	SW	.....	.....	1	4c	4sk	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	32.55	572.8	.....	.....	45.5	7.5	71	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.35	593.0	30.10	764.5	39.2	4.0	75	NNE	4.5	2.0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.39	721.0	30.06	763.5	71.1	21.7	73	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.96	761.1	30.09	764.4	60	15.6	.....	Calm	.....	.....	0	4c	5k	.....	.....	0	0	Misty	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft. San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.8 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.3	29.97	761.3	24.1	— 4.4	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.01	762.3	30.07	763.7	27.5	— 2.5	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.04	763.1	30.04	763.1	26.6	— 3.0	.....	NE	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Helievoetsluis	29.95	760.7	29.95	760.7	24.3	— 4.3	97	NE	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.95	760.6	29.99	761.8	23.5	— 4.7	71	NNE	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Helievoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.20	767.1	30.26	768.5	28.4	— 2.0	72	SSE	12.5	5.6	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.29	769.3	30.33	770.3	19.4	— 7.0	62	S	34	15	.....	.....	2	.....	.....	0	0	.....	
Christiania	30.19	766.9	30.35	770.9	20.5	— 6.4	79	NE	0	0	.....	.....	4	.....	.....	0.016	0.4	.....	
Tromsö	30.37	771.4	30.41	772.5	27.0	— 2.8	79	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.00	762.0	30.19	766.9	56.5	13.6	78	WNW	11.9	5.3	.....	.....	2	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	28.66	727.9	29.70	754.4	51.3	10.7	87	E	14.3	6.4	.....	.....	10	SE	.....	0.528	13.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.90	759.4	29.98	761.6	62.6	17.0	72	Calm	0	0	.....	.....	5	.....	.....	0.665	16.9	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.30	744.2	29.66	753.4	53.4	11.9	85	NNE	17.4	7.8	.....	.....	5	.....	.....	0.224	5.7	.....	The Staff.
Ponta Delgada, (Azores)	30.11	764.9	30.19	766.7	60.1	15.6	56	NNW	19.2	8.6	.....	.....	4	.....	.....	0.126	3.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 6 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'r
D. Fernando	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	1		D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	I. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, N. 12° 05', W. 16° 53'	2	.....	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, S. 14° 12', E. 11° 59'	3	SW	D. clouds	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	3	N	Overcast	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.71	754.7	30.16	766.0	28.8	— 1.8	80	SE	16	7	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.01	762.2	30.47	773.9	14.5	— 9.7	86	ENE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	30.39	771.9	30.66	778.8	9.9	—12.3	85	ESE	9	4	.....	.....	10n;k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.73	780.6	30.75	781.0	10.0	—13.2	76	SE	16	7	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.97	761.1	30.67	779 0	15.1	— 9.4	94	ESE	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.60	777.1	30.67	778.9	19.4	— 7.0	81	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.58	776.6	30.60	777.1	28.2	— 2.1	92	NE	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Lagorio.
Moscow	30.47	773.9	31.09	789.8	3.0	—16.1	62	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.50	774.8	30.73	780.6	9.9	—12.3	58	E	18	8	.....	.....	0	.....	.....	.....	.....	.....	MeteorologicalObs.
Archangel	30.93	785.5	30.95	786.0	—13.4	—25.2	73	E	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.94	735.1	30.40	772.2	45.3	7.7	55	NW	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.74	780 9	30.66	778.8	14.7	— 9.6	59	NE	7	3	.....	.....	1s	.....	.....	.....	.....	Light clouds	Capt. Wisganow.
Krotkowo*	30.43	773.0	30.98	786.8	1.0	—17.2	78	NE	2	1	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.69	779 6	31.00	787.4	4.6	—15.2	67	WNW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.50	749.2	30.58	776.7	0.9	—17.3	78	W	16	7	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.14	765.5	30.39	772.0	20.5	— 6.4	44	NNE	16	7	.....	.....	10n	.....	.....	.....	.....	.....	
Tashkend	28.65	727.6	30.45	773.5	33.8	1.0	85	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.93	760.1	30.53	775.5	— 5.6	—20.9	80	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.32	770.2	30.67	779.0	—20.6	—29.2	80	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.49	774.4	30.63	778.0	11.5	—11.4	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.17	766.4	30.26	768.6	—36.0	—37.8	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk. 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.71	754.6	29.82	757.3	55.9	13.3	73	ENE	2.9	1.31	.....	.....	10	.....	.....	0	0	Covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.67	753.7	29.73	755.2	56.5	13.6	84	SE	0.6	0.29	.....	1	7	SW	.....	0.543	13.8	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.76	679.6	.....	.....	47.5	8.6	83	SE	4.2	1.88	.....	.....	8	.....	.....	0.138	3.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.48	698.1	.....	.....	50.9	10.5	82	NE	3.7	1.67	.....	.....	7	.....	.....	0.268	6.8	Cloudy	The Staff.
Murcia, Met. Obs'y	29.54	750.2	29.69	754.1	57.0	13.9	81	NE	0.9	0.42	.....	5	5	SW	.....	0.026	0.65	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.80	731.6	29.71	754.5	49.5	9.7	83	NE	9.8	4.4	.....	.....	9	.....	.....	0.094	2.4	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.07	763.8	30.14	765.5	68.3	20.2	85	Calm	0	0	.....	7ck	1s	SW	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.6	29.92	760.0	82.2	27.9	84	NE	0	0	.....	.....	.....	E	0	0	Fair	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.52	749.7	29.62	752.2	54.9	12.7	92	SSE	27.5	12.3	.....	0	10	.....	S	0.932	23.7	Raining	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W.I.	30.00	762.0	30.09	764.3	75.9	24.4	90	E	0	0	.....	3k	4k	E	E	0.069	1.75	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.70	779.7	30.74	780.7	6.8	—14.9	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	30.51	775.0	30.56	776.3	13.6	—10.2	93	E	.....	.....	2	.....	10	.....	.....	0.091	2.3	Snowing	
Hernosand	30.35	771.0	30.41	772.3	20.8	— 6.2	95	N	.....	.....	2	.....	10	.....	.....	0.181	4.6	Snowing	
Stockholm	30.13	765.3	30.31	769.8	26.2	— 3.2	82	SSE	.....	.....	4	.....	10	.....	.....	0.079	2.0	Snowing	
Wisby	30.17	766.2	30.23	767.7	24.4	— 4.2	91	SE	.....	.....	6	.....	10	.....	.....	0.071	1.8	Snowing	
Sub-Series.																			
Upsala	30.23	767.7	30.30	769.6	25.0	— 3.9	94	ESE	4.7	2.1	.....	.....	10	.....	.....	0.046	1.16	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.42	721.9	29.95	760.6	39.4	4.1	71	SW	.....	.....	2	.....	7	.....	.....	0.165	4.2	Cloudy	The Observatory.
Zurich	28.24	717.3	29.89	759.3	38.8	3.8	75	SE	.....	.....	1	.....	4	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.5 mm.; Thermometer, +2.3 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.60	777.2	38.7	3.7	57	N	10	4.5	.....	.....	5	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.44	773.2	59.5	15.3	.....	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.04	763.0	30.16	766.0	56.8	13.8	61	N	.....	.....	4	.....	9ks	.....	SW	0.28	7.1	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.10	764.5	30.17	766.3	2.5	—16.4	86	Calm	0	0	.....	.....	10n	.....	.....	0.10	2.5	Snowing	Hon. J. Ferguson.
Brockville, Ontario	29.62	752.3	29.95	760.7	11	—11.7	.....	NE	1	0.4	.....	.....	10n	.....	NE	0.40	10.2	Heavy snow	W. R. Bigg.
*Chatham, N. B	30.14	765.5	30.21	767.3	1	—17.2	100	Calm	0	0	.....	.....	10n	.....	Calm	0.11	2.8	Light snow	G. A. Blair.
Charlottetown, P. E. Island	30.15	765.8	30.19	766.8	12	—11.1	94	Calm	0	0	.....	.....	10s	.....	Calm	0.100	2.54	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.89	759.2	11.0	—11.7	96	NE	.....	.....	1	.....	10n	.....	.....	0.40	10.2	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.04	1.0	.....	W. H. Bevis.
*Father Point, Quebec	30.12	765.0	30.14	765.5	— 1	—18.3	91	E	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	J. McWilliams.
Fredericton, N. B	30.09	764.3	30.16	766.1	4.6	—15.1	90	NE	7	3.1	.....	.....	10n	.....	.....	0.59	15.0	Snowing	Prof. Harrison.
*Fort Garry Manitoba	29.03	737.3	29.94	760.5	0	—17.8	94	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.92	734.6	30.09	764.3	20.3	— 6.5	.....	N	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	30.02	762.5	30.16	766.1	15	— 9.4	86	E	5	2.2	.....	.....	10n	.....	.....	0.320	8.13	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.66	753.4	30.06	763.5	21.7	— 5.7	93	W	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	Geo. Dickson, M. A.
Heart's Content, N. F	30.22	767.6	30.25	768.3	19	— 7.2	100	W	.....	.....	1	0	0	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.60	751.8	29.96	761.0	13	—10.6	89	N	5	2.2	.....	8cs	0	Calm	.....	0.04	1.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.09	764.3	30.13	765.3	20.0	— 6.7	87	SE	4	1.8	.....	.....	10n	.....	.....	0.40	10.2	Overcast	C. H. Rigby.
Moose Factory, Ontario	29.81	757.2	29.85	758.2	—13.0	—25.0	80	S	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Cloudy	J. R. Nason.
*Montreal, Quebec	29.64	752.8	29.86	758.4	11	—11.7	92	N	9	4.0	.....	.....	10n	.....	.....	0.35	8.9	Heavy snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.34	745.2	30.13	765.3	— 7	—21.7	53	W	3	1.3	.....	0	0	.....	.....	0.15	3.8	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.21	741.8	30.03	762.8	12.7	—10.7	53	NW	.....	.....	.....	0	0	.....	.....	.....	.....	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.38	746.2	30.12	765.0	22	— 5.6	85	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.08	764.0	30.13	765.3	16.9	— 8.4	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.41	747.0	30.10	764.5	24	— 4.4	86	NW	.....	.....	.....	.....	10n	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.62	752.3	29.97	761.2	18	— 7.8	100	E	.....	.....	8	.....	10n	.....	E	0.30	7.6	Heavy snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.50	749.3	30.01	762.2	1	—17.2	94	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.05	763.3	24	— 4.4	76	SE	.....	.....	3	.....	10n	.....	.....	0.10	2.5	Cloudy	Dr. Gove.
St. John, N. B	29.92	760.0	30.09	764.3	20	— 6.7	100	E	9	4.0	.....	.....	10ks	.....	.....	0.32	8.1	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.33	745.0	30.10	764.5	21	— 6.1	90	NW	19	8.5	.....	.....	10ks	.....	.....	0.12	3.0	Cloudy	K. Stewart.
Stayner, Ontario	29.22	742.2	30.06	763.5	19	— 7.2	91	N	9	4.0	.....	.....	10n	.....	NW	0.08	2.0	Cloudy	R. J. Cole.
Stratford, Ontario	28.74	730.0	30.11	764.8	18.2	— 7.7	92	NW	10.0	4.5	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.17	766.3	30.22	767.6	14	—10.0	98	Calm	0	0	.....	.....	10s	.....	.....	0.15	3.8	Cloudy	T. C. Hill.
*Toronto, Ontario	29.67	753.6	30.08	764.0	20	— 6.7	86	NW	12	5.4	.....	.....	8ks	.....	NW	0.02	0.5	Cloudy	Magnetic Observatory.
Windsor, N. S	30.06	763.5	30.16	766.1	12.0	—11.1	80	S	1	0.4	.....	.....	10n	.....	Calm	0.16	4.1	Cloudy	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	16.0	— 8.9	83	SW	.....	.....	.....	0	0	.....	.....	0.13	3.3	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.55	750.6	29.78	756.4	34	1.1	85	S	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Alpena, Michigan	29.42	747.2	30.12	765.0	13	—10.6	81	W	8	3.6	.....	.....	8s	.....	W	0.33	8.4	Cloudy	
Atlanta, Georgia	28.99	736.3	30.15	765.8	52	11.1	82	SW	14	6.3	.....	.....	10s;sme	.....	SW;Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.89	759 2	29.90	759.4	35	1.7	80	SW	10	4.5	.....	0	5ks	.....	W	0	0	Fair	
Augusta, Georgia	30.06	763.5	30.24	768.1	50	10.0	86	S	2	0.9	.....	7ck;cs	Sm'e	S;Calm	Calm	0	0	Smoky	
Baltimore, Maryland	29.89	759.2	29.94	760.5	42	5.6	66	SW	3	1.3	.....	5k	5s; fg	W	SW;Calm	0	0	Foggy	
Barnegat, New Jersey	29.88	758.9	29.90	759.4	33	0.6	79	SW	10	4.5	.....	2c	2s	SW	Calm	0	0	Fair	
Bismarck, Dakota	27.95	709.9	29.81	757.2	14	—10.0	100	NE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.65	727.7	30.00	762.0	43	6.1	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.00	685.8	29.96	761.0	48	8.9	62	SE	20	8.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Boston, Massachusetts	29.67	753.6	29.83	757.7	33	0.6	89	SE	4	1.8	.....	.....	Fog	.....	SE	0	0	Dense fog	
Brackettville, Texas	29.09	738.9	30.15	765.8	48	8.9	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.94	735.1	30.04	763.0	2	—16.7	100	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.98	761.5	30.05	763.3	60	15.6	94	S	4	1.8	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.29	744.0	30.02	762.5	24	— 4.4	100	NW	6	2.7	.....	.....	10n	.....	NW	Inap.	Inap.	Sleeting	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	Inap.	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.52	749.8	29.83	757.7	14	—10.0	91	N	11	4.9	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Cairo, Illinois	29.93	760 2	30.35	770.9	35	1.7	80	N	10	4.5	.....	.....	10s	.....	N	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.34	643.6	30.14	765.5	47	8.3	26	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	25	— 3.9	26	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.52	699.0	30.09	764.3	25	— 3.9	77	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	47	8.3	92	SW	17	7.6	.....	8cs	Haze	W	.....	0	0	Cloudy	
Cape Henry, Virginia	30.02	762.5	30.04	763.0	51	10.6	59	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	49	9.4	93	SW	13	5.8	.....	10cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	29.91	759.7	29.94	760.5	39	3.9	82	SW	20	8.9	.....	8ck	0	W	.....	0	0	Fair	
Castroville, Texas	29.33	745.0	30.06	763.5	47	8.3	70	W	6	2.7	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.22	767.6	30.29	769.4	51	10.6	79	SW	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	41	5.0	41	W	12	5.4	.....	2cs	0	NW	.....	0	0	Clear	
Chicago, Illinois	29.50	749.3	30.25	768.3	22	— 5.6	86	NW	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Cincinnati, Ohio	29.52	749.8	30.20	767.1	37	2.8	67	NW	10	4.5	.....	.....	10ks	.....	NW	0	0	Cloudy	
Cleveland, Ohio	29.38	746.2	30.14	765.5	30	— 1.1	68	NW	11	4.9	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Coleman City, Texas	28.43	722.1	30.19	766.8	35	1.7	80	N	16	7.2	.....	1c	0	NE	.....	0	0	Clear	
Columbus, Ohio	29.25	742.9	30.12	765.0	36	2.2	70	NW	13	5.8	.....	.....	10ks	.....	N	0.01	0.3	Cloudy	
Corpus Christi, Texas	28.31	719.1	30.11	764.8	53	0.6	79	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.66	753.4	30.14	765.5	46	7.8	77	N	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Davenport, Iowa	29.62	752.3	30.31	769.9	19	— 7.2	69	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.15	638.8	.....	.....	40	4.4	56	SW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	29.08	738.6	30.30	769.6	38	3.3	63	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.42	747.2	30.26	768.6	37	2.8	71	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.79	629.6	30.01	762.2	34	1.1	52	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Des Moines, Iowa	29.37	746 0	30.34	770.6	6	—14.4	76	NW	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.46	748.3	30.16	766.1	26	— 3.3	75	NW	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Dodge City, Kansas	27 62	701.5	30.06	763.5	26	— 3.3	88	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.52	749.8	30.29	769.4	12	—11.1	80	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.33	745.0	30.06	763.5	12	—11.1	80	SW	8	3.6	.....	0	0	.....	.....	0 06	1.5	Clear	
Eagle Pass, Texas	29.34	745.2	30.10	764.5	51	10.6	46	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.95	760.7	30.02	762.5	25	— 3.9	75	SE	23	10.3	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	48	8.9	100	S	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	52	11.1	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.32	744.7	30.08	764 0	27	— 2.8	88	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.42	747.2	30.14	765.5	7	—13.9	77	SW	8	3.6	.....	0	0	.....	.....	0.08	2.0	Clear	
Florence, Arizona	28.62	752.3	30.22	767.6	38	3.3	54	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.73	653.5	29.78	756.4	24	— 4.4	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.38	741.6	30.34	770.6	33	0.6	61	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.74	755.4	30.31	769.9	29	— 1.7	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	29.02	737.1	30.37	771.4	34	1.1	79	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	.....	.....	.....	.....	30	— 1.1	.....	SE	3	1.3	.....	.....	.....	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.96	710.2	29.97	761.2	39	3.9	55	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.05	737.9	30.22	767.6	35	1.7	70	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.45	722.6	30.05	763 3	49	9.4	51	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.06	763.5	30.11	764.8	58	14.4	100	W	4	1 8	.....	.....	10n	.....	W	0.20	5.1	Light rain	
Graham, Texas	29.18	741.2	30.21	767.3	33	0.6	89	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.52	749.8	30.20	767.1	27	— 2.8	76	NW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.40	746.7	30.22	767.6	35	1.7	70	NW	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Indianola, Texas	30.06	763.5	30.08	764.0	57	13.9	94	E	5	2.2	.....	1cs	0	SW	.....	0	0	Clear	
Jacksboro, Texas	29.10	739.1	30.30	769.6	34	1.1	79	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.27	768.8	30.30	769.6	46	7.8	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.62	752.3	30.30	769.6	18	— 7.8	84	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.14	765.5	30.17	766.3	64	17.8	89	E	9	4.0	.....	.....	10n	.....	E	Inap.	Inap.	Light rain	
Kittyhawk, North Carolina	30.11	764.8	30.14	765.5	45	7.2	76	SW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.11	739.4	30.12	765.0	52 5	11.4	83	W	8	3.6	.....	.....	10n	.....	W	0.01	0.3	Light rain	
La Crosse, Wisconsin	29.44	747.8	30.24	768.1	14	—10.0	82	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.29	667.8	30.44	773.2	30	— 1.1	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.65	753.1	30.00	762.0	47	8.3	85	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.42	747.2	30.34	770.6	20	— 6.7	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.78	756.4	30.13	765.3	45.1	7.3	84	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.63	752.6	30.22	767.6	36	2.2	71	W	10	4.5	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Lynchburg, Virginia	29.34	745.2	30.02	762.5	47	8.3	61	SW	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	29.19	741.4	30.24	768.1	23	— 5.0	73	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.24	742.7	29.99	761.7	18	— 7.8	68	NW	21	9.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Mason, Texas	28.51	724.1	30.35	770.9	40	4.4	65	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.91	759.7	30.24	768 1	46	7.8	60	N	8	3.6	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Milwaukee, Wisconsin	29.45	748 0	30.23	767.8	25	— 3.9	76	NW	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.19	766.8	30.23	767.8	55	12.8	93	S	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Montgomery, Alabama	29.98	761.5	30.21	767.3	55	12.8	87	S	.....	.....	1	8k	0	W	.....	0	0	Fair	
Morgantown, West Virginia	28.90	734.0	29.96	761.0	47	— 8.3	62	W	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Mt. Washington, N. H.	23.39	594.1	29.75	755.6	8	—13.3	100	SW	54	24.1	.....	.....	10n	.....	SW	0.50	12.7	Light snow	
Nashville, Tennessee	29.67	753.6	30.22	767.6	42	5.6	74	NW	8	3.6	.....	10cs	0	.....	.....	Inap	Inap.	Cloudy	
New Haven, Connecticut	29.73	755.1	29.85	758.2	30	— 1.1	100	N	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
New London, Connecticut	29.80	756.9	29.84	757.9	37	2.8	100	S	2	0.9	.....	.....	Fog	.....	Calm	0	0	Dense fog	
New Orleans, Louisiana	30.09	764.3	30.15	765.8	58	14.4	82	SE	6	2.7	.....	0	5ks;sme	.....	S;Calm	0	0	Fair	
Newport, Rhode Island	29.79	756.7	29.84	777.9	39	3.9	100	S	8	3.6	.....	7cs	Fog	Calm	Calm	0	0	Fair	
New York, New York	29.72	754.9	29.90	759.4	32	0.0	100	W	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Norfolk, Virginia	30.01	762.2	30.07	763.8	46	7.8		SW	8	3.6	.....	5cs	Haze	Calm	.....	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.13	689.1	29.82	757.4	27	— 2.8	88	S	2	0.9	.....	0	Haze	.....	Calm	0	0	Hazy	
Olympia, Washington Ter.	29.44	747.8	29.48	748.8	39.2	4.0	82	S	6	2.7	.....	.....	10s	.....	Calm	1.07	27.4	Cloudy	
Omaha, Nebraska	29.08	738.6	30.27	768.8	17	— 8.3	83	SW	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Oswego, New York	29.62	752.1	25.95	760.7	23	— 5.0	73	NW	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	
Pembina, Dakota	29.01	736.8	29.99	760.0	2	—16.7	100	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.85	758.2	29.91	759.7	41	5.0	65	NE	1	0.4	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.96	735.6	30.85	783.6	41	5.0	57	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.73	450.3	29.94	760.5	16	— 8.9	16	NW	28	12.5	.....	0	5s	.....	W	0	0	Fair	
Pioche, Nevada	24.11	612.4	29.88	758.9	36	2.2	39	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.14	740.1	29.96	761.0	41	5.0	82	NW	10	4.5	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Port Huron, Michigan	29.43	747.5	30.13	765.3	25	— 3.9	87	NW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.84	757.9	29.89	759.2	40	4.4	82	SE	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Portland, Oregon	29.54	750.3	29.64	752.8	49.5	9.7	85	W	5	2.2	.....	.....	10n	.....	.....	0.90	22.9	Light rain	
Prescott, Arizona	24.83	630.7	30.19	766.8	28	— 2.2	77	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.15	740.4	29.99	761.7	40	4.4	56	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.22	767.6	30.23	767.8	58	14.4	82	NE	12	5.4	.....	2c	2s	SW	Calm	0	0	Fair	
Red Bluff, California	29.64	752.8	30.01	762.2	44	6.7	92	S	2	0.9	.....	.....	10n	.....	Calm	0.92	23.4	Light rain	
Rio Grande City, Texas	29.85	758.2	30.07	763.8	52	11.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.33	745.0	29.98	761.5	24	— 4.4	87	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.11	739.4	29.66	753.4	50.6	10.0	90	S	2	0.9	.....	.....	10n	.....	Calm	0.28	7.1	Light rain	
Sacramento, California	29.91	759.7	30.00	762.0	47.5	8.6	91	S	4	1.8	.....	.....	10n	.....	Calm	0.211	5.36	Light rain	
St. Louis, Missouri	29.72	754.9	30.33	770.4	30	— 1.1	78	NW	12	5.4	.....	0	2s	.....	Calm	0	0	Fair	
St. Marks, Florida	30.26	768.6	30.28	769.1	44	6.7	92	Calm	0	0	.....	1ck	2s	Calm	Calm	0	0	Fair	
St. Paul, Minnesota	29.24	742.7	30.15	765.8	8	—13.3	78	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	40	4.4	78	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.42	747.2	30.02	762.5	50	10.0	72	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.08	764.0	30.16	766.1	40.8	4.9	100	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Sandusky, Ohio	29.49	749.0	30.20	767.1	28	— 2.2	88	NW	26	11.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	29.86	758.4	29.90	759.4	30	— 1.1	89	W	8	3.6	.....	.....	Fog	.....	W	0	0	Foggy	
San Francisco, California	29.91	759.7	29.98	761.5	49	9.4	93	S	7	3.1	.....	.....	10n	.....	E	0.40	10.2	Light rain	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	23	— 5.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.18	766.6	30.27	768.8	50	10.0	79	SW	2	0.9	.....	5cs	Sm'e	W	Calm	0	0	Fair	
Shreveport, Louisiana	29.93	760.2	30.15	765.8	56	13.3	100	NE	2	0.9	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Silver City, New Mexico	24.33	618.0	30.75	781.0	31	— 0.6	73	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.21	767.3	30.24	768.1	48	8.9	93	SW	6	2.7	.....	8ck	0	SW	.....	0	0	Cloudy	
Springfield, Massachusetts	29.78	756.4	29.91	759.7	30	— 1.1	68	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Stockton, Texas	27.22	691.4	30.22	767.6	33	0.6	89	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.77	756.1	29.83	757.7	37	2.8	90	SE	22	9.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Toledo, Ohio	29.45	748.0	30.17	766.3	30	— 1.1	78	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	36	2.2	52	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.25	768.3	30.28	769.1	49	9.4	85	SW	6	2.7	.....	2ck	5ks	SW	SW	0	0	Cloudy	
Umatilla, Oregon	29.26	743.2	29.75	755.6	33.0	0.6	89	SE	2	0.9	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	30	— 1.1	89	Calm	0	0	.....	0	5s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.26	743.2	30.11	764.8	49	9.4	51	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.95	760.7	30.21	767.3	56	13.3	97	N	5	2.2	.....	.....	10n	.....	Calm	0.39	9.9	Light rain	
Virginia City, Montana	24.05	610.9	29.53	750.0	34	1.1	70	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.72	754.9	30.10	764.5	51	10.6	59	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	29.82	757.4	29.94	760.5	41	5.0	82	S	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	61	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.12	765.0	30.20	767.1	49	9.4	78	SW	8	3.6	.....	8c;ck	0	W	.....	0	0	Fair	
Winnemucca, Nevada	25.55	649.0	29.91	759.7	39	3.9	64	E	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Wood's Holl, Mass	29.79	756.7	29.83	757.7	39	3.9	91	S	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Yankton, Dakota	28.81	731.8	30.02	762.5	10	—12.2	68	NE	1	0.4	.....	5cs	0	NW	.....	0	0	Fair	
Yuma, Arizona	29.94	760.5	30.11	764.8	47	8.3	34	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.66	728.0	30.16	766.1	30	— 1.1	68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.09	764.3	30.14	765.5	68	20.0	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.17	766.3	30.18	766.6	75	23.9	81	Calm	0	0	.....	0	2s	.....	SE	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	78	25.6	.....	NE	8.3	3.7	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	82	27.8	83	NE	.....	.....	4	4c	6k	NE	.....	0.14	3.56	Fair	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.75	755.6	29.80	756.9	—26.0	—32.2	.....	W	13	5.8	.....	4ck	6s	W	NW	0.02	0.5	Snowing	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,533 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Conchc, 1,779 (?) ft., or 523.4 (?) m.; Deadwood, (?); Decatur, 1,100 (?) ft., or 553.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,070 (?) ft., or 654.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	48	8.9	48	8.9	100	SE	7	3.1	.....	.....	10	.....	S;E	1.095	27.81	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.32	770.1	56	13.3	56	13.3	94	SE	8	3.6	.....	.....	.....	.....	SW	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.08	738.6	48	8.9	38	3.3	81	S	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
Naval Hospital, Yokohama, Japan *	29.91‡	759.7‡	.....	.....	43	6.1	59	ENE	.....	.....	5		5k;s	.....	NW	0.71	18.0	.....	.....	Fair.....	
Alaska, N. 71° 09', W. 82° 02'	29.97	761.2	81	27.2	80	26.7	78	W	.....	.....	2	.....	2	.....	SE	0	0	Smooth	.....	D. clouds.....	
Alliance, Smyrna, Turkey	.....	.....	.....	.....	45	7.2	47	ENE	.....	.....	2	.....	1	.....	Calm	.....	.....	.....	.....	Clear.....	
Ashuelot. Saigon, Cochin China	29.97	761.2	90	32.2	80	26.7	74	NE	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Canonicus, New Orleans, La.	30.15	765.8	43	6.1	50	10.0	100	SE	.....	.....	2	.....	5	.....	SE	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.	29.84	757.9	33	0.6	32	0.0	100	SSW	1	0.4	.....	.....	Fog	.....	.....	0	0	.....	.....	Foggy.....	
Constitution, Portsmouth, England	29.92‡	760.0‡	.....	.....	30	— 1.1	89	NE	14	6.3	.....	.....	10	.....	ENE	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	30.58‡	776.7‡	.....	.....	41	5.0	57	N	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Essex, S. 44° 15', W. 62° 49'	29.54	750.3	67	19.4	67	19.4	95	NW	.....	.....	4	.....	10	.....	Calm	.....	.....	Mod'ate	NW	Overcast.....	
Franklin, Norfolk, Va.	30.21	767.3	74	23.3	51	10.6	65	SW?	0?	0?	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.	
Gettysburg, Genoa, Italy	30.04‡	763.0‡	.....	.....	43	6.1	92	N	.....	.....	3–5	.....	10	.....	N	0.24	6.1	.....	.....	Squally.....	
Hartford, Montevideo, Uruguay	29.84	757.9	78	25.6	78	25.6	73	NNE	16.8	7.5	.....	.....	5	.....	NNE	0	0	Smooth	.....	Fair.....	
Lackawana, Panama *	29.68‡	753.9‡	.....	.....	77	25.0	91	N	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear.	
Michigan, Erie, Pa.	30.00†	762.0†	.....	.....	27	— 2.8	76	N	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy * Inland Sea, Japan	30.18‡	766.6‡	.....	.....	43	6.1	75	NNE	.....	.....	4	.....	2	.....	NNE	.....	.....	.....	.....	Fair.....	
Monongehela, Yokohama, Japan	29.87‡	758.7‡	.....	.....	42	5.6	75	NNE	.....	.....	5	.....	10	.....	.....	Blank	Blank	.....	.....	Overcast	
New Hampshire, Port Royal, S. C.	30.29†	769.4†	.....	.....	51	10.6	79	SSW	2	0.9	.....	.....	8	.....	SW	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.00†	762.0†	.....	.....	70	21.1	90	SE	.....	.....	2	.....	2	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	30.56	776.2	20	— 6.7	10	—12.2	100	SW	.....	.....	0–5	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.	.....	.....	.....	.....	44	6.7	76	S	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Pensacola, Panama	29.84‡	757.9‡	.....	.....	76	24.4	95	NNW	5	2.2	.....	.....	2	.....	.....	0	0	Smooth	.....	Fair	
Powhatan, Norfolk, Va.	30.09	764.3	49	9.4	49	9.4	63	SSW	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, N. 36° 26', W. 39° 40'	30.49‡	774.4‡	.....	.....	60	15.6	65	W	.....	.....	3	.....	5	.....	W	.....	.....	Long	NW	Fair.....	
Ranger, Yokohama, Japan	29.89‡	759.2‡	.....	.....	47	8.3	70	NE	.....	.....	4	.....	8	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Richmond, N. 35° 48', W. 35° 00'	30.44‡	773.2‡	.....	.....	61	16.1	88	N	.....	.....	4	.....	5	.....	W	.....	.....	Smooth	SSW	Fair	
Rio Bravo, Brownsville, Texas	29.99	761.7	66	18.9	60	15.6	100	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	29.88‡	758.9‡	.....	.....	47	8.3	62	SW	.....	.....	3	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.85	758.2	55	12.8	28	— 2.2	.....	Calm	.....	.....	0	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Supply, N. 40° 52', W. 15° 49'	29.96‡	761.0‡	.....	.....	54	12.2	80	NE	.....	.....	3	.....	5	.....	NE	.....	.....	Mod'ate	NNE	Fair.....	
Trenton Villafranca, France *	29.99‡	761.7‡	.....	.....	51	10.6	??	E	.....	.....	2	.....	10	.....	E	0	0	.....	.....	Overcast.....	
Tuscarora, Panama	29.98‡	761.5‡	.....	.....	77	25.0	86	NNW	.....	.....	1–2	.....	1	.....	Calm	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass	29.86‡	758.4‡	.....	.....	37	2.8	81	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Foggy	
Wyoming, Naples, Italy	30.25	768.3	67	19.4	60	15.6	94	SE	.....	.....	2–3	.....	8	.....	SE	.....	.....	Smooth	.....	Cloudy.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 27° 15′, W. 114° 48′		30.04†	763.0†	62	16.7	94	NW			3		0				Small	NW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.79	756.7				Calm			0		0						Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid.

WHITE STAR LINE MARINE SERIES. Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Myer, N. 36° 31′, W. 129° 44′		29.55	750.6	60	15.6	88	S			6		ks		S		Rough cross		Squally	J. A. Thompson, 2d Off
S. S. Gaelic, N. 45° 02′, W. 153° 40′		30.12†	765.0†	39	3.9	??	NW			6		k		NW	Blank	High	W	Squally	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 45° 17′ W. 16° 23′		29.92	760 0	51.0	10.6	72	SE			1		8		E	0	3	SE	Cloudy	L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President: Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 48° 50′, W. 39° 49′		29.54*	750.3*	38	3.3	??	NNE			6		9		NE	0	Mod'ate	N	Cloudy	Captain Sargent.
S. S. Ohio, N. 45° 25′, W. 46° 32′		29.98†	761.5†	37	2.8	90	N			5		5?		N	Blank	Cross	W;N	Cloudy?	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian. N. 45° 25′, W. 53° 43′		30.07*	763.8*	22	—5.6		N			2		2s		SW	0	Heavy Confused	NW		Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Gardiner's Id., off Long Island		29.84	757.9	38	3.3	81	SW	6				5c?		SW	0			Clear?	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 24, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.7	60.4	15.8	82	Calm	.....	.....	0	.....	8	.....	.....	0.079	2.0	Very cloudy	
Nemours	.....	.....	29.89	759.2	58.5	14.7	87	WNW	.....	.....	3	.....	10	.....	.....	0.532	13.5	Covered.....	Kesxuche.
Algiers	.....	.....	29.73	755.1	61.5	16.4	66	W	.....	.....	3	.....	0	.....	.....	0.039	1.0	Clear.....	Touriliere.
La Calle	.....	.....	29.82	757.5	62.1	16.7	55	S	.....	.....	5	.....	10	.....	.....	0	0	Covered.....	Foufrede.
Tunis	.....	.....	29.89	759.1	60.6	15.9	64	SW	.....	.....	4	.....	10	.....	.....	0	0	Covered.....	Jacques.
Sfax	.....	.....	29.96	761.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.81	757.2	57.2	14.0	40	W	.....	.....	4	.....	8	.....	.....	0.051	1.3	Very cloudy	Herbin.
Tebessa	.....	.....	29.93	760.2	45.1	7.3	85	SSE	.....	.....	4	.....	10	.....	.....	0.004	0.1	Covered.....	Watrin.
Geriville	.....	.....	29.85	758.2	45.0	7.2	76	NNW	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	29.94	760.4	51.4	10.8	73	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	29.89	759.3	59.7	15.4	76	SE	.....	.....	1	.....	10	.....	.....	0.354	9.0	Raining.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.56	750.9	30.12	765.0	52.0	11.1	59	SW	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.25	743.0	30.04	763.1	39.6	4.2	84	NNE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.26	743.2	30.19	766.7	35.2	1.8	77	SE	.....	.....	4	.....	10s	.....	NW	0	0	.....	Julius Mikolik.
Gratz	28.79	731.3	30.07	763.8	42.6	5.9	81	NE	.....	.....	3	.....	1	.....	.....	0.008	0.2	.....	Andreas Rospini
Hermannstadt	28.77	730.7	30.28	769.2	30.4	— 0.9	82	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.54	724.9	29.94	760.5	32.0	0.0	96	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.12	739.7	30.18	766.6	22.5	— 5.3	98	SE	.....	.....	2	.....	9	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.02	762.4	30.13	765.3	56.3	13.5	82	SE	.....	.....	3	.....	9	.....	.....	0.012	0.3	.....	I.R.Hydrographic Office.
Szathmar	29.78	756.3	30.26	768.5	42.1	5.6	58	N	.....	.....	2	.....	9	.....	.....	0	0	.....	Julius Osics, S. J.
Szegedin	29.89	759.1	30.18	766.6	36.0	2.2	82	S	.....	.....	3	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.06	763.5	30.16	766.1	54.7	12.6	85	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	P. Busin.
Vienna	29.29	744.0	30.04	762.9	37.2	2.9	80	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 2:45, p. m., local time.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.10	764.5	30.20	767.1	31.5	— 0.3	.....	SW	8	3.6	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.14	765.5	30.16	766.1	33	0.6	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	30.15	765.8	30.6	— 0.8	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Snowing.....	S.Call.
Bidston, (Liverpool Obs.)	.....	.....	30.12	765.0	31.1	— 0.5	.....	E	14	6.3	.....	.....	8	.....	.....	.....	.....	Misty.....	John Hartnup.
Bolton	.....	.....	30.13	765.3	29.8	— 1.2	.....	ESE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.66	753.4	30.06	763.5	31.1	— 0.5	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	81.5	27.5	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	30.06	763.5	31.9	— 0.1	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H.Todd. [O.
Cardington	.....	.....	30.14	765.5	31.0	— 0.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.87	758.7	30.00	762.0	31.2	— 0.4	.....	NE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Davis.
Dartmoor	28.41	721.6	29.95	760.7	26.6	— 3.3	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	Alexander Watt.
Donaghadee	30.12	765 0	30.17	766.3	34	1.1	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.94	760.5	29.97	761 2	32	0.0	.....	E	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast.....	J. Costello.
Falmouth, Observatory	29.74	755.4	29.98	761.5	31.7	— 0.1	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.45	697.2	29.78	756.4	79.6	26 4	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Pvt. G.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.68	753.9	29.91	759.7	87	30.6	.....	E?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.04	763.0	34	1.1	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.77	756.1	29.83	757.7	56.7	13 7	.....	N	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.96	761.0	30.16	766.1	24 9	— 3.9	.....	ESE	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.05	763.3	30.06	763.5	32	0.0	.....	ENE	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.84	757.9	30.02	762.5	30.2	— 1.0	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, or G. B. Airy
Guernsey	29.66	753.4	29.89	759.2	35	1.7	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	Dr. S. E. Hoskins, F.R.S.
Helston	29.91	759.7	30.04	763.0	34	1.1	.....	NE	.....	.....	2	.....	10k	.....	.....	0	0	Gloomy.....	M. P. Moyle.
Holyhead	30.06	763.5	30.12	765.0	32	0.0	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	29.59	751.6	29.90	759.4	32.0	0.0	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty	J. Fisher.
Kew, Observatory	29.98	761.5	30.02	762.5	31.0	— 0.6	.....	NE	21	9.4	.....	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Leicester, Museum	29.81	757.2	30.08	764.0	31.2	— 0.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.08	746.0	30.16	766.1	63	17 2	.....	SE	.....	.....	2	.....	4c	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	30.02	762.5	30.12	765.0	33	0.6	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.16	766.1	70 5	21.4	.....	NE	.....	.....	2	.....	10	.....	.....	Blank	Blank	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.90	759.4	30 10	764.5	31.3	— 0.4	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.53	750.0	30.08	764.0	28.9	— 1.7	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.06	763.5	30	— 1.1	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy.....	H. E. Bellamy.
Plymouth	29.90	759.4	29.98	761.5	31.7	— 0.2	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Reeth's Point	29.99	761.7	30.04	763.0	33	0.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....	W. Kennedy.
Saint Ann's Head	29.88	758.9	30.05	763.3	31	— 0.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.10	764.5	36.2	2.3	.....	SW	17	7.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev.C. Clouston, LL. D.
Scutari, (Turkey in Asia)	.....	.....	30.37	771.4	44.0	6.7	.....	ENE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.84	757.9	30.14	765.5	31.2	— 0.4	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.15	765.8	30.18	766.6	29.9	— 1.2	80	SE	.....	.....	1	.....	5	.....	.....	0	0	D. clouds.....	F. H. Redford.
Stonyhurst Observatory	29.72	754.9	30.13	765.3	31.0	— 0.6	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Strathfield Turgiss	.....	.....	.....	.....	30.8	— 0.7	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Rev.C.H.Griffith, F.M.S.
Thurs	30.03	762.8	30.09	764.3	31	— 0.6	.....	SSW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro Royal Institution	.....	.....	29.99	761.7	33	0.6	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.97	761.2	30.00	762.0	34.1	1.2	.....	E	.....	.....	22	.....	10	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.61	752.1	64	17.8	79	S	.....	.....	2	.....	10kn	.....	.....	0.02	0.5	Cloudy.....	FrancisAbbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.21	767.3	28.1	— 2.2	.....	SW	.....	.....	1	.....	10s	.....	.....	0	0	Overcast.....	Andrew Gibb.
Mauritius, Observatory	29.63	752.6	29.82	757.4	80.4	26.9	77	W	10.0	4.5	.....	0	10	.....	.....	.....	.....	Showery	C. Meldrum.
Melbourne, Observatory	29.69	754.1	29.78	756.4	67.0	19.4	83	SW	9	4.0	.....	.....	0	.....	.....	0	0	Squally.....	H. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.09	764.3	39	3.9	.....	SSW	.....	.....	6	5	5	SW	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.83	757.7	41	5.0	.....	SW	.....	.....	7	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	62.6	17.0	92	SE	.....	.....	2	1ks	.....	NE	.....	.....	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.																			
Copenhagen	30.07	763.6	30.11	764.8	23.5	— 4.7	81	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Fanöe	30.17	766.2	30.19	766.7	20.7	— 6.3	90	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	28.83	732.3	28.87	733.4	24.4	— 4.2	100	W	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.74	755.3	29.77	756.2	35.6	2.0	77	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	
Vestervig	30.04	763.1	30.21	767.4	21.0	— 6.1	77	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.																			
Alençon, Normal School	29.32	744.8	29.87	758.8	28.0	— 2.2	88	NE	.....	.....	2	.....	10	.....	.....	0.110	2.8	Covered	Collignon, Director.
Amiens, Normal School	29.75	755.7	29.87	758.7	28.4	— 2	89	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.72	755.0	29.80	757.0	59.0	15	58	SE	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.27	743.4	29.85	758.2	37.6	3.1	93	NE	.....	.....	1	.....	10	.....	.....	0.079	2.0	Covered	C. Maillard, Director.
Beauvais, Normal School	29.61	752.1	29.91	759.8	28.2	— 2.1	.....	ENE	.....	.....	1	.....	10	.....	.....	0.049	1.25	Covered	Frère Eugene Marie, Dir.
Besançon, Normal School	28.95	735.2	29.86	758.4	41.9	5.5	88	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	28.97	735.7	29.87	758.7	46.4	8	86	W	.....	.....	1	.....	10n	S	S	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet Directeur.
Brest, Naval Observatory	29.57	751.0	29.81	757.2	36.3	2.4	79	NE	.....	.....	2	.....	10	.....	NE	0	0	.....	M. de Rermaur, Director.
Carcassonne, Normal School	29.29	744.0	29.70	754.4	56.1	13.4	89	E	.....	.....	2	.....	5	SE	E	0	0	Cloudy	September, Director.
Caen, Normal School	29.71	754.7	29.79	756.6	30.2	— 1	80	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.27	743.4	29.87	758.6	29.5	— 1.4	85	N	.....	.....	3	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.53	750.1	29.87	758.6	28.9	— 1.7	.....	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.39	721.0	29.69	754.0	55.2	12.9	63	S	.....	.....	1	.....	10	.....	S	0	0	Covered	Alluard, Director.
Commercy, Normal School	29.00	736.6	29.88	758.9	42.8	6	97	SW	.....	.....	1	.....	8kn	.....	SW	0.795	20.2	Very cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.73	729.7	29.87	758.7	55.2	12.9	66	SE	.....	.....	6	.....	10	.....	SE	0	0	Covered	M. Rina, Director.
Grenoble, Normal School	29.08	738.6	29.85	758.1	52.5	11.4	63	SSW	.....	.....	4	.....	10n	.....	S	0	0	Covered	M. Ablard, Director.
La Rochesur-Yon, N. School	29.58	751.4	29.81	757.1	34.9	1.6	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.57	751.0	29.89	759.2	28.9	— 1.7	70	NNE	.....	.....	2	.....	10	.....	.....	0.047	1.2	Coverad	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.90	734.1	29.82	757.4	50.9	10.5	69	S	.....	.....	2	.....	10	.....	S	0.055	1.40	Covered	Baudry, Director.
Lorient, Naval Observatory	29.76	755.9	29.86	758.4	30.2	— 1.0	96	NE	.....	.....	3	.....	.....	.....	NE	0.079	2.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Galzin, Director
Mirecourt, Normal School	28.76	730.6	29.83	757.7	44.2	6.8	88	NE	.....	.....	3	.....	n	.....	SW	0.28	7.	.....	M. Barbier, Director.
Nismes Normal School	29.63	752.6	29.83	757.7	56.1	13.4	93	S	.....	.....	3	.....	10	.....	W	0.108	2.75	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.93	633.1	.....	.....	37.4	2.8	100	S	.....	.....	3	.....	10	.....	.....	0.012	0.3	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.75	755.6	29.78	756.4	41.0	5	97	E	.....	.....	1	.....	10	E	E	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.81	757.1	29.89	759.3	30.0	— 1.1	68	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.82	757.4	29.85	758.2	30.6	— 0.8	86	ESE	.....	.....	2	.....	10	ESE	ESE	0	0	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.71	754.6	29.87	758.8	27.9	— 2.3	84	N	.....	.....	1	.....	10	.....	.....	0.563	14.3	Covered	E. Renou, Director.
Tarbes, Normal School	28.61	726.8	29.70	754.3	48.2	9	73	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.15	740.3	29.87	758.8	44.8	7.1	84	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.4	30.00	762.1	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchès.
Lyons, Observatory	.....	.....	29.82	757.3	45.9	7.7	79	WSW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.59	624.6	29.91	759.6	36.5	2.5	85	NE	7.4	3.3	.....	.....	10	.....	.....	0.217	5.5	.....	M. Cave.
Nice	.....	.....	29.89	759.3	61.2	16.2	77	E	.....	.....	8	.....	10	.....	.....	0	0	Misty	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.59	751.5	.....	.....	26.2	— 3.2	89	NE	.....	.....	2	.....	10	.....	.....	0.472	12.0	Heavy snow	Marié Davy, Director
Perpignan	29.61	752.0	29.71	754.7	54.9	12.7	87	SW	3.8	1.7	.....	.....	10	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi (Plantade) H. P.	22.18	563.3	.....	.....	32.5	0.3	.....	S	.....	.....	1	.....	5	.....	.....	0.150	3.8	Snowy	Capt. de Nansouty.
Toulouse, Observatory	29.04	737.6	29.76	755.8	53.6	12.0	90	SSE	.....	.....	1	.....	10	.....	.....	0.004	0.1	.....	M. Mercadier Julier.
Tours	29.61	752.1	29.81	757.1	31.3	— 0.4	.....	E	.....	.....	1	.....	10	.....	.....	0.520	13.2	.....	Cousin-Marquet.
Versailles Observatory	.....	.....	29.86	758.4	27.3	— 2.6	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Dr. A. Bérigny, Director
Zi-Ka-Wei, (near Shanghai)	30.53	775.4	30.55	776.0	30.2	— 1.0	79	N	7.8	3.5	.....	.....	10	.....	.....	0	0	Covered	Marc Debevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.04	737.7	29.88	759.0	36.1	2.3	87	NW			2		9	NW		0.024	0.6		Prof. Dr. Hoh.
Berlin	29.79	756.6	29.97	761.2	28.8	— 1.8	84	N			1		10			0.492	12.5	Rain & snow	Prof. Arndt.
Breslau	29.46	748.3	29.99	761.8	39.2	4.0	79	SSE			2		10			0.022	0.56		Royal University Obs'y
Carlsruhe	29.41	747.1	29.85	758.2	38.8	3.8	86	NNE			1		10	SW		0	0		Albert Senz.
Cassel	29.35	745.4	29.95	760.8	23.0	— 5.0	88	NNW			4		10	N		0.035	0.88	Snow & hail	Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	25.9	— 3.4	78	N			4		9			0.24	6.		Director Lose.
Emden					29.8	— 1.2	74	NE			6		1			0	0		Prof. Prestel.
Frankfort on the Main	29.54	750.3	29.92	759.9	34.0	1.1		NNE			0		10			0.276	7.0		Physical Society.
Friedrichshafen	28.41	721.6	29.88	758.9	41.0	5.0	75	SW			2		10	SW		0	0		M. Wilhelm.
Hamburg	30.02	762.5	30.10	764.4	25.3	— 3.7	84	NE			4		6k			0.039	1.0	Fair	Captain F. Hegemann
Kiel	30.11	764.7	30.12	765.1	27.0	— 2.8	78	NE			4		6			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.95	760.6	30.03	762.8	28.8	— 1.8	85	SE			2		10			0.106	2.7	Snowing	Prof. E. Luther.
Köslin			29.94	760.5	29.1	— 1.6		Calm			0		4			0.110	2.8		H. Müller.
Leipsic, Observatory	29.58	751.4	30.03	762.8	23.4	— 4.8	95	N			2		10			0.063	1.6	Foggy	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.00	762.0	30.05	763.2	24.1	— 4.4	88	SE			4		10					Covered	Skalweit.
Neufahrwasser	29.98	761.4	29.99	761.8	32.9	0.5	90	Calm			0		10			0.268	6.8	Raining	A. Lothes.
Posen	29.71	754.5	30.00	762.1	37.9	3.3	87	E			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.32	744.7	29.89	759.2	36.1	2.3	89	Calm			0		10	W				Raining	Imp. University Observatory
Stuttgart	28.90	734.1	29.86	758.4	43.7	6.5	68	SE			0		10			0	0	Foggy	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.37	720.7	29.93	760.1	37.6	3.1	91	Calm	0	0			10		SW	0		Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.07	763.6	30.08	763.9	27.3	— 2.6	92	ENE			2		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.96	760.9	30.35	771.0	53.1	11.7		NE			2.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.99	761.7	30.04	763.0	76.6	24.4	14	NE					0			0	0	Blue sky	
Deesa																			
Bombay	29.87	758.8	29.91	759.8	79.5	26.4	78	NW	12.0	5.4			0			0	0	Blue sky	
Poonah	27.92	709.0	29.91	759.8	81.1	27.3		ENE					2		ENE	0	0	Blue sky	
Lahore	29.21	742.0	29.99	761.7	60.6	15.9	31	Calm	1.3	0.6			0			0	0	Blue sky	
Belgaum	27.37	695.1	29.88	759.1	80.8	27.1	56	SE	7.0	3.1			2			0	0	D. clouds	
Roorkee	29.01	736.9	29.94	760.5	64.8	18.2	22	NW	3.3	1.5			0			0	0	Blue sky	
Agra	29.42	747.3	30.01	762.3	62.3	16.8	39	W					0			0	0		
Nagpur	28.90	734.0	29.95	760.7	77.1	25.1	33	Calm	2.0	0.9			0			0	0	Blue sky	
Lucknow	29.60	751.7	29.98	761.6	63.4	17.4	24	NW	1.8	0.8			0			0	0	Blue sky	
Allahabad	29.67	753.6	30.00	761.9	60.2	15.7	37	Calm	2.2	1.0			0			0	0	Blue sky	
Patna	29.81	757.1	30.00	761.9	67.8	19.9	29	W	1.2	0.5			0			0	0	Blue sky	
Hazaribagh	27.92	709.1	29.99	761.8	63.8	17.7	18	WNW	7.5	3.4			0			0	0	Blue sky	
Cuttack	29.89	759.1	29.97	761.2	68.7	20.4	56	NW	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	29.96	761.0	29.99	761.6	62.6	17.0	57	W	2.0	0.9			0			0	0	Blue sky	
Goalpara					65.1	18.4	46	W	1.5	0.7			0			0	0	Blue sky	
Chittagong	29.87	758.8	29.97	761.2	68.6	20.3	43	WNW	5.7	2.6			0			0	0		
Sibsagar	29.62	752.3	29.97	761.2	61.9	16.6	83	N	0.5	0.2			0			0	0	Blue sky	
Jubbulpore	28.62	726.9	30.03	762.8	65.8	18.8	46	Calm	1.9	0.8			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters: Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,016 ft., or 612.6 m.; Jubbulpore, 1,355 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.75	755.6	30.17	766.4	48.0	8.9	92	NE	0.7	0.3	.....	.....	10	.....	.....	0.173	4.4	.....	Prof. Giovanni Clodig.
Padua	30.05	763.2	30.16	766.1	41 0	5.0	98	E	2.5	1.1	.....	.....	10	.....	.....	0.008	0.2	.....	Prof. Dott. Lorenzoni
Milan	29.59	751.6	30.14	765.5	35.4	1.9	96	W	.....	.....	1	.....	10	.....	.....	0.220	5.6	.....	Prof. Schiaparelli.
Moncalieri	29.17	740.8	30.11	764.7	36.5	2.5	96	N	1.8	0.8	.....	.....	10	.....	.....	0.197	5.0	.....	Prof. P. F. Denza.
Mondovi	28.14	714.7	30.11	764.8	37.4	3.0	91	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.85	758.1	30.04	763.1	47.5	8.6	90	NE	1.3	0.6	.....	.....	10	SE	.....	0.205	5.2	.....	Prof. G. M. Garibaldi.
Florence	29.82	757.4	30.08	764.1	56.8	13.8	73	E	.....	.....	2	.....	10	S	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.93	760.1	30.01	762.3	57.7	14.3	74	E	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.08	763.9	30.13	765 2	40.1	4.5	100	NE	4 3	1.9	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.89	759.2	30.07	763.7	60.6	15.9	62	S	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	30.01	762.3	30.27	768.9	56.5	13.6	75	SSW	15.4	6.9	.....	.....	8	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.64	752.9	29.84	757.8	60.4	15.8	77	SE	.....	.....	6	.....	10	S	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.26	743.2	30.17	766.3	52.0	11.1	74	SE	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.78	756.5	30.04	763.1	61.9	16.6	50	S	24.8	11.1	.....	.....	10	S	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.13	765.4	30.21	767.4	58.3	14.6	78	NW	13.7	6.1	.....	.....	10	SE	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29 58	751.3	30.13	765.4	60.4	15.8	53	NE	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.26	768.6	30.28	769.1	35.9	2.2	79	N	9.9	4.4	.....	.....	1s	.....	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.10	764.5	30.31	769.9	35.4	1.9	82	NE	0.5	0.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.07	763.8	30.14	765.5	36.9	2.7	73	ENE	3.5	1.6	.....	.....	10s	.....	.....	0.003	0.08	Overcast	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9. 40 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the cooperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.9	30.41	772.5	38.5	3.6	46	Calm	.....	.....	0	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.54	623.4	30.28	769.0	45.5	7.5	76	SE	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.2	30.32	770.0	43.7	6.5	67	N	6.7	3.0	.....	0	10k	.....	.....	0	0	Covered	The Staff.
Pabellon, (Aguascalientes')	.....	.....	.....	.....	44.6	7.0	52	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.10	764.5	30.11	764.8	65.5	18.6	96	SW	.....	.....	2	0	8	.....	NW	.....	.....	Threatning.	M. M. Cházaro.
San Luis Potosi	24.29	617.0	30.27	768.9	46.0	7.8	67	SE	.....	.....	1	0	5	.....	SE	0	0	.....	G. Barroeta, M. D.
Vera-Cruz	30.15	765.7	30.17	766.4	66.2	19.0	80	NW	.....	.....	2	3ck	3sk	.....	.....	0	0	½ clouded	Prof. J. Rossell.
Zacatecas	22.25	565.2	.....	.....	44.6	7	64	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.5	42.8	6.0	89	N	4.5	2.0	.....	.....	3	.....	Calm	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.3	30.07	763.8	70.9	21.6	68	NE	.....	.....	1	.....	4	.....	.....	0	0	½ clouded	R. Banda, C. E.
San Juan E. Michapam	30.02	762.6	30.16	766.0	67	19.4	.....	Calm	.....	.....	.....	7n	3n	NW	NW	0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,771 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft. San Luis Potosi, 1853 m., or 6210.4 ft.; Zacatecas, 2,196 m., or 8,188.8 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.98	761.6	29.98	761.6	29.3	— 1.5	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.04	762.9	30.09	764.3	27.7	— 2.4	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.07	763.8	30.07	763.8	28.2	— 2.1	.....	NE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.99	761.7	29.99	761.7	28.6	— 1.9	98	ENE	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.98	761.6	30.03	762.8	28.9	— 1.7	85	NE	.....	.....	4	.....	8	.....	.....	0.012	0.3	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.15	765.8	30.21	767.2	30.2	— 1.0	69	SSE	19.7	8.8	.....	.....	10	.....	.....	0	0	.....	
Brönö	29.95	760.6	29.98	761.6	21.6	— 5.8	95	E	22	10	.....	.....	10	.....	.....	.....	.....	Light snow.	
Christiania	30.10	764.5	30.26	768.6	15.1	— 9.4	87	ENE	2	1	.....	.....	10	.....	.....	.....	.....	Light snow.	
Tromsö	30.04	763.0	30.08	764.1	23.4	— 4.8	67	SSW	25	11	.....	.....	2	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 m'n.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.13	765.2	30.32	770.1	55.8	13.2	75	WNW	13.0	5.8	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.78	731.1	29.95	760.7	50.9	10.5	82	WNW	9.4	4.2	.....	.....	9	WNW	.....	0.173	4.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.13	765.4	30.22	767.6	64.4	18.0	60	S	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.50	749.4	29.87	758.7	54.1	12.3	63	WNW	13.7	6.1	.....	.....	7	WNW	.....	0.039	1.0	.....	The Staff.
Ponta Delgada, (Azores)	30.24	768.1	30.31	769.9	59.0	15.0	56	N	13.0	5.8	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the weather directly in Portuguese terms of the corresponding observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h., 8 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	V. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.79	756.6	84.2	29.0	.....	WSW	.....	.....	2	.....	0	.....	.....	1	WSW	Blue sky	V. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, N. 11° 50', W. 15° 38'	.....	.....	30.00	761.9	77.7	25.4	.....	Var.	.....	.....	3	.....	1	.....	.....	2	.....	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, Port Mossamedes, Lower Guinea	.....	.....	29.82	757.3	77.0	25.0	.....	SSW	.....	.....	3	.....	4	.....	.....	3	SW	Blue sky	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.18	766.6	55.4	13.0	.....	N	.....	.....	4	.....	10	.....	.....	2	N	Overcast	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	29.60	751.9	30.04	763.1	32.2	0.1	87	SE	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.79	756.7	30.24	768.1	20.7	— 6.3	88	S	7	3	.....	.....	8	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	30.06	763.5	30.33	770.3	16.7	— 8.5	82	ESE	9	4	.....	.....	9k;n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.47	773.8	30.48	774.2	20.5	— 6.4	71	SSE	20	9	.....	.....	9s;n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.85	758.2	30.56	776.2	10.0	—12.2	93	ESE	9	4	.....	.....	10ks;ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.54	775.6	30.61	777.4	16.5	— 8.6	85	NW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.53	775.5	30.55	776.0	24.1	— 4.4	95	NE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.36	771.1	30.99	787.1	1.6	—16.9	75	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.20	767.0	30.43	772.8	9.3	—12.6	69	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.80	782.4	30.82	782.9	— 6.2	—21.2	73	ESE	9	4	.....	.....	2cs	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	29.00	736.7	30.48	774.3	40.5	4.7	78	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.77	781.6	30.69	779.5	24.8	— 4.0	48	ENE	9	4	.....	.....	3ck;s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.37	771.3	30.91	785.1	1.0	—17.2	66	SW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.61	777.5	30.92	785.3	4.3	—15.4	58	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.50	749.3	30.58	776.7	3.0	—16.1	96	W	9	4	.....	.....	4ck;cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.30	769.6	30.56	776.1	22.6	— 5.2	38	NE	9	4	.....	.....	2ck	.....	.....	.....	.....	.....	
Tashkend	28.82	732.0	30.62	777.8	37.0	2.8	86	Calm	0	0	.....	.....	6	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.81	757.2	30.40	772.1	4.3	—15.4	80	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.38	771.6	30.73	780.5	—27.6	—33.1	74	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.39	771.8	30.53	775.4	15.1	— 9.4	66	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	30.00	761.9	30.08	764.1	—34.2	—36.8	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the cooperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.56	750.8	29.67	753.5	57.2	14	56	NE	2.2	1.00	.....	.....	5	.....	.....	0	0	Light clouds	Antonio Rave, Director
Bilbao, Met. Obs'y	29.72	754.8	29.78	756.3	51.6	10.9	89	SE	0.9	0.41	.....	.....	10	.....	.....	0.154	3.9	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.75	679.6	.....	.....	51.4	10.8	71	SE	4.8	2.14	.....	.....	6	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.48	697.9	.....	.....	49.3	9.6	86	E	2.2	1.00	.....	.....	9	.....	.....	0.138	3.5	Covered	The Staff.
Murcia, Met. Obs'y	29.57	751.1	29.72	755.0	60.8	16.0	45	SE	1.1	0.50	.....	.....	2	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.83	732.2	29.73	755.1	47.7	8.7	83	NE	3.8	1.7	.....	.....	7	.....	.....	0.043	1.1	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.08	764.0	30.15	765.7	69.1	20.6	89	Calm	0	0	.....	10cp	0	.....	.....	0.075	1.9	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.6	29.92	760.0	82.0	27.8	74	NE	0	0	.....	0	0	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.79	756.7	29.89	759.2	57.0	13.9	69	WNW	26.7	11.9	.....	0	6	.....	NW	0.038	1.0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.02	762.4	30.11	764.7	74.1	23.4	97	SE	0	0	.....	4kn	3kn	E	E	0.030	0.75	Cloudy	Leonardo de Tejeda, Ch'f Eng'e

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.33	770.3	30.37	771.3	9.0	—12.8	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	
Umea	30.27	768.9	30.32	770.2	8.6	—13.0	100	NE	.....	.....	2	.....	10	.....	.....	0.024	0.6	Snowing.....	
Hernosand	30.21	767.3	30.26	768.6	11.1	—11.6	100	N	.....	.....	4	.....	7	.....	.....	0.197	5.0	Snowing.....	
Stockholm	29.91	759.6	30.08	764.1	21.6	— 5.8	90	N	.....	.....	4	.....	10	.....	.....	0.134	3.4	.....	
Wisby	29.94	760.5	30.00	762.0	28.8	— 1.8	96	ENE	.....	.....	6	.....	10	.....	.....	0.177	4.5	Snowing.....	
Sub-Series.																			
Upsala	30.03	762.7	30.10	764.6	21.4	— 5.9	93	N	7.2	3.2	.....	.....	10	.....	SSE	0.015	0.36	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.43	722.0	29.90	759.4	28.5	3.6	83	SW	.....	.....	1	.....	10	.....	.....	0.004	0.1	Raining	The Observatory.
Zurich	28.22	716.8	29.91	759.6	40.3	4.6	79	NW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.4 mm.; Thermometer, +1.8 cent.; Relative Humidity, +6 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the cooperation of N. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.42	772.6	42.8	6.0	49	ENE	8	3.5	.....	1	.....	N	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.28	769.0	59.4	15.2	.....	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.99	761.7	30.11	764.7	56.7	13.7	52	N	.....	.....	4	.....	3ks	.....	W	0.20	5.1	D. clouds,....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except at Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.00	762.0	30.07	763.8	4.5	—15.3	87	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.82	757.4	30.14	765.5	23	— 5.0	.....	SW	5	2.2	.....	.....	10s	.....	SW	0.03	0.8	Cloudy.....	W. R. Bigg.
*Chatham, N. B	30.05	763.3	30.12	765.0	0	—17.8	94	SW	3	1.3	.....	10c	0	SW	.....	0.24	6.1	Fair	G. A. Blair.
Charlottetown, P. E. Island.	30.00	762.0	30.05	763.3	10	—12.2	98	NW	12	5.4	.....	0	5ks	.....	Calm	1.200	30.48	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.09	764.3	24.9	— 3.9	85	W	.....	.....	4	.....	10s	.....	.....	0.10	2.5	Overcast,....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.74	755.4	29.78	756.4	35.1	1.7	160	Calm	.....	.....	.....	1k	0	.....	.....	0.048	12 2	Clear.....	W. H. Bevis.
*Father Point, Quebec	29.97	761.2	29.99	761.7	9	—12.8	83	S	20	8.9	.....	8cs	2s	Calm	S	0 04	1.0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.13	765.3	30.20	767.1	— 4.6	—20.3	100	W	1	0.4	.....	3ck	0	W	.....	Inap.	Inap.	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	28.74	730.0	29.62	752.3	12	—11.1	96	N	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy.....	James Stewart.
Granton, Ontario	28.96	735.6	30.13	765.3	23	— 5.0	.....	SW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast....	James Grant.
*Halifax, N. S	29.96	761.0	30.11	764.8	13	—10.6	81	N	10	4.5	.....	2c	0	W	.....	0.010	0.25	Fair.....	F. Allison, M. A.
Hamilton, Ontario	29.79	756.7	30.19	766.8	20.3	— 6 5	84	SW	.....	.....	1	5cs	0	SW	.....	0	0	Fair.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.34	745.2	29.37	746.0	28	— 2.2	100	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	E. Weedon.
*Kingston, Ontario	29.79	756.7	30.15	765.8	28	— 2.2	95	SW	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.28	769.1	30.32	770.1	19.7	— 6.8	88	W	6	2.7	.....	7k	0	W	.....	0.30	7.6	Cloudy.....	C. H. Rigby.
Moose Factory, Ontario	29.58	751.3	29.61	752.1	3.3	—15.9	95	N	.....	.....	3	.....	10n	.....	.....	0.20	5.1	Snowing.....	J. R. Nason.
*Montreal, Quebec	29.89	759.2	30.10	764.5	23	— 5.0	85	W	20	8.9	.....	.....	10s	.....	.....	0.02	0.5	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.97	761.2	27	— 2.8	82	S	24	10.7	.....	2ck	5ks	SW	SW	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.32	744.7	30.12	765.0	26.3	— 3.2	46	Calm	.....	.....	.....	.....	9ks	.....	.....	.....	.....	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.44	747.8	30.18	766.6	22	— 5.6	85	S	6	2.7	.....	8c	0	S	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	29.99	761.7	30.04	763.0	11.7	—11.3	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.48	748.8	30.17	766 3	24	— 4.4	97	SW	.....	.....	.....	.....	10ks	.....	NW	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.79	756.7	30.14	765.5	10	—12.2	89	W	.....	.....	1	.....	10n	.....	W	0.26	6.6	Light snow.	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.45	748.0	29.93	760.2	23	— 5.0	86	Calm	0	0	.....	.....	8s	.....	NW	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.12	765.0	30.18	766.6	13	—10.6	66	NW	.....	.....	2	2k	2ks	N	.....	0.55	14.0	Fair.....	Dr. Gove.
St. John, N. B	29.99	761.7	30.17	766.3	10	—12.2	100	NW	8	3.6	.....	0	1cs	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.27	743.4	30.02	762.5	26	— 3.3	76	S	22	9.8	.....	2sc	8ks	.....	E	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.21	741 9	30.03	762.8	27	— 2.8	77	SE	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.77	730 7	30.13	765 3	21.6	— 5.8	93	SW	14.0	6.3	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.87	758.7	29.91	759.7	22	— 5.6	90	NW	8	3.6	.....	0	5ks	.....	NW	0.30	7.6	Fair.....	T. C. Hill.
*Toronto, Ontario	29.74	755.4	30.14	765.5	26	— 3.3	93	SW	15	6.7	.....	5c	5ks	Calm	SW	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	30.04	763.0	30.14	765.5	12.5	—10.8	90	W	8	3.6	.....	3cs	0	.....	.....	0	0	Clear.....	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	100	NE	.....	.....	.....	5	5n	.....	.....	0.32	8.1	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim'rs.	Weather.	Observer.
Albany, New York	30.07	763.8	30.32	770.1	20	— 6.7	77	S	8	3.6	.....	2c	2s	W	Calm	0	0	Fair	
Alpena, Michigan	29.20	741.7	29.88	758.9	25	— 3.9	75	S	20	8.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Atlanta, Georgia	29.12	739.6	30.28	769.1	54	12.2	86	SW	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Atlantic City, New Jersey	30.33	770.4	30.35	770.9	25	— 3.9	75	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
Augusta, Georgia	30.12	765.0	30.30	769.6	52	11.1	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Baltimore, Maryland	30.32	770 1	30.38	771.6	32	0.0	79	NW	1	0.4	.....	2c	5s;fg	Calm	Calm	0	0	Foggy	
Barnegat, New Jersey	30.32	770.1	30.35	770.9	30	— 1.1	78	E	11	4.9	.....	8c	0	Calm	.....	Inap.	Inap.	Fair	
Bismarck, Dakota	27.70	703.6	29.56	750.8	39	3.9	91	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.74	730.0	30.12	765.0	38	3 3	100	W	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Boise City, Idaho	27.12	688.8	30.08	764.0	40	4.4	91	SE	4	1.8	.....	.....	10n	.....	Calm	0.45	11.4	Light rain	
Boston, Massachusetts	30.14	765.5	30.31	769.9	22	— 5.6	72	W	9	4.0	.....	8c;cs	Haze	w;calm	Calm	0.02	0.5	Fair	
Brackettville, Texas	29.07	738.4	30.13	765.3	47	8.3	92	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.47	723.1	29.48	748.8	25	— 3.9	87	SE	12	5.4	.....	0	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.15	765.8	30.22	767.6	55	12.8	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.43	747.5	30.17	766.3	23.5	— 4.7	80	SW	6	2.7	.....	5cs	2s	W	SW	Inap.	Inap	Fair	
Burkes, Arizona	.....	.....	.....	.....	45	7.2	4	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.91	759.7	30.22	767.6	17.5	— 8.1	76	S	4	1.8	.....	2cs	5s	Calm	Calm	0.01	0.3	Fair	
Cairo, Illinois	29.87	758.7	30.29	769.4	32	0.0	79	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.33	643.4	30.13	765.3	53	11.7	36	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	28	— 2.2	22	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp o, California	27.55	699.8	30.12	765.0	36	2.2	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	47	8.3	85	NE	16	7.2	.....	5k	0	NW	.....	0.03	0.8	Fair	
Cape Henry, Virginia	30.30	769.6	30.32	770.1	36	2.2	71	NE	4	1.8	.....	8cs	0	NE	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.26	768.6	30.28	769.1	45	7.2	92	NE	20	8.9	.....	5c	Haze	W	NE	0	0	Hazy	
Cape May, New Jersey	30.34	770.6	30.37	771.4	26	— 3.3	76	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.42	747.2	30.16	766.1	43	6.1	92	W	4	1,8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.27	768.8	30.33	770.4	52	11.1	79	W	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Cheyenne, Wyoming	23.96	608.6	29.90	759 4	43	6.1	43	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.27	743.4	29.99	761.7	31	— 0.6	69	SW	17	7.6	.....	5ck	0	W	.....	0	0	Fair	
Cincinnati Ohio	29.58	751.3	30.26	768.6	37	2.8	67	SW	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Cleveland, Ohio	29.43	747.5	30.20	767.1	26	— 3.3	75	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.34	719.8	30.08	764.0	37	2.8	71	SW	6	2.7	.....	0	8s	.....	SW	0	0	Fair	
Columbus, Ohio	29.22	742.2	30.09	764.3	32	0.0	69	S	3	1.3	.....	8cs	Fog	Calm	Calm	0	0	Cloudy	
Corpus, Texas	28.24	717.3	30.01	762.2	31	— 0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.73	755.1	30.21	767.3	51	10.6	93	E	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Davenport, Iowa	29.26	743.2	29.92	760.0	31	— 0.6	79	SW	16	7.2	.....	2cs	0	Calm	.....	0	0	Fair	
Deadwood, Dakota	25.18	639.6	.....	.....	45	7.2	61	NW	6	2.7	.....	5c	0	NW	.....	0	0	Fair	
Decatur, Texas	28.97	735.8	30.17	766.3	44	6.7	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.37	746.0	30.18	766.6	48	8.9	93	S	10	4.5	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Denver, Colorado	24.74	628.4	29.96	761.0	40	4.4	56	S	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Des Moines, Iowa	29.87	733.3	29.76	755.9	35	1.7	80	SW	11	4.9	.....	0	5s	.....	SW	0	0	Fair	
Detroit, Michigan	29.40	746.7	30.11	764.8	24	— 4.4	87	SW	13	5.8	.....	5cs	5s	Calm	Calm	0	0	Cloudy	
Dodge City, Kansas	27.30	693.4	29.65	753.1	33	0.6	89	SW	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Dubuque, Iowa	29.10	739.1	29.83	757.7	27	— 2.8	76	S	2	0.9	.....	2c	5s	S	Calm	0	0	Fair	
Duluth, Minnesota	28.88	733.5	29.57	751.1	31	— 0.6	89	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.43	747.5	30.21	767.3	40	4.4	65	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.11	764.8	30.19	766.8	15	— 9.4	74	W	8	3.6	.....	10c	0	W	.....	0.11	2.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	50	10.0	100	W	.....	.....	1	3cs	0	Calm	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	53	11.7	48	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.42	747.2	30.17	766.3	29	— 1.7	89	SW	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair	
Escanaba, Michigan	29.06	738.1	29.73	755.1	26	— 3.3	88	SW	16	— 8.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	28.62	726.9	30.22	767.6	40	4.4	65	N	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.71	653.0	29.77	756.1	27	— 2.8	66	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.32	643.1	30.28	769.1	42	5.6	42	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.58	751.3	30.14	765.5	38	3.3	63	S	7	3.1	.....	2c	0	W	.....	0	0	Clear	
Fort Griffin, Texas	28.83	732.3	30.16	766.1	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	.....	.....	.....	.....	32	0.0	.....	S	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Fort McKavett, Texas	27.92	709.2	29.87	758.7	50	10.0	65	SW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.87	733.3	30.02	762.5	35	1.7	83	S	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.43	722.1	30.03	762.8	49	9.4	85	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Galveston, Texas	30.17	766.3	30.22	767.6	53	11.7	100	NE	4	1.8	.....	.....	Fog	.....	NE	0.55	14.0	Foggy	
Graham, Texas	29.03	737.3	30.13	765.3	35	1.7	90	SE	2	0.9	.....	8cs	0	N	.....	0	0	Fair	
Grand Haven, Michigan	29.31	744.5	29.97	761.2	34	1.1	79	S	24	10.7	.....	.....	10s	.....	S	0	0	Cloudy	
Indianapolis, Indiana	29.35	745.5	30.17	766.3	30	— 1.1	78	SE	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	
Indianola, Texas	30.19	766.8	30.22	767.6	55	12.8	100	N	11	4.9	.....	.....	10s	.....	Calm	0.01	0.3	Foggy	
Jacksboro, Texas	28 94	735.1	30.10	764 5	43	6.1	67	S	12	5.4	.....	2c	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.30	769.6	30.32	770.1	48	8.9	85	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.27	743.4	29.90	759 4	36	2.2	80	SW	8	3.6	.....	9c	0	NW	.....	0	0	Cloudy	
Key West, Florida	30.13	765.3	30.17	766.3	65	18.3	94	NE	8	3.6	.....	.....	10n	.....	NE	3.97	100.8	Light rain	
Kittyhawk North Carolina	30.30	769.6	30.32	770.1	41	5.0	91	NE	8	3.6	.....	8ck	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.28	743.7	30.33	770.4	37.5	3.1	86	N	2	0.9	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
La Crosse, Wisconsin	28.94	735.1	29.67	753.6	39	3.9	64	S	16	7.2	.....	8k	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.25	666.7	30.40	772.1	31	— 0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.80	756.9	30.16	766.1	43	6.1	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.06	738.1	29.92	760.0	36	2.2	61	S	10	4.5	.....	1cs	0	Calm	.....	0	0	Clear	
Los Angeles, California	29.75	755.6	30.09	764.3	53.3	11.8	67	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.65	753.1	30.24	768.1	35	1.7	70	S	4	1.8	.....	5c	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.66	753.4	30.38	771.6	34	1.1	79	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	28.82	732.0	29.82	757.4	34	1.1	79	S	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	28.91	734.3	29.62	752.3	33	0.6	70	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.54	724.9	30.39	771.9	35	1.7	90	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.97	761.2	30.31	769.9	32	0.0	89	NE	2	0.9	.....	0	Fog	.....	Calm	0	0	Foggy	
Milwaukee, Wisconsin	29.13	739.9	29.88	758.9	32	0.0	79	S	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.27	768.8	30.32	770.1	49	9.4	100	S	5	2.2	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Montgomery, Alabama	30.07	763.8	30.31	769.9	53	11.7	93	NW	1	0.4	.....	.....	10ks;fg	.....	NW;Calm	0	0	Cloudy	
Morgantown, West Virginia	29.15	740.4	30.25	768.3	34	1.1	79	Calm	0	0	.....	5cs	1s	Calm	Calm	0	0	Fair	
Mt. Washington, N. H.	23.55	598.2	29.91	759.7	— 1	—18.3	68	NW	60	26.8	.....	8s	2ks	Calm	NW	0.13	3.3	F ir	
Nashville, Tennessee	29.75	755.6	30.32	770.1	32	0.0	79	Calm	0	0	.....	.....	10s;sm'	.....	Calm	0.01	0.3	Cloudy	
New Haven, Connecticut	30.23	767.8	30.35	770.9	23	— 5.0	79	NW	1	0.4	.....	5c8	5s;hz	Calm	Calm	0	0	Cloudy	
New London, Connecticut	30.27	768.8	30.32	770.1	25	— 5.0	86	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
New Orleans, Louisiana	30.20	767.1	30.27	768.8	55	12.8	93	E	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.28	769.1	30.34	770.6	28	— 2.2	66	NW	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy	
New York, New York	30.16	766.1	30.36	771.1	28	— 2.2	88	NE	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Norfolk, Virginia	30.28	769.1	30.34	770.6	35	1.7	90	NE	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'r 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
North Platte, Nebraska	26.92	683.8	29.51	749.5	36	2.2	67	NW	12	5.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Olympia, Washington Ter.	29.85	758.2	29.89	759.2	37.2	3.4	90	S	6	2.7	.....	.....	10n	.....	.....	0.30	7.6	Light rain	
Omaha, Nebraska	28.59	726.2	29.70	754.4	35	1.7	80	S	6	2.7	.....	2c	2s	Calm	Calm	0	0	Fair	
Oswego, New York	29.88	758.9	30.23	767.8	28	— 2.2	77	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	
Pembina, Dakota	28.69	728.7	29.55	750.6	21	— 6.1	100	N	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Sleeting	
Philadelphia, Pa	30.30	769.6	30.36	771.1	37	2.8	81	N	1	0.4	.....	.....	10s;sme	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.95	735.3	30.81	782.6	46	7.8	54	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.80	452.1	30.01	762.2	21	— 6.1	16	W	48	21.5	.....	0	5s	.....	W	0	0	Fair	
Pioche, Nevada	24.10	612.1	29.87	758.7	40	4.4	39	S	14	6.3	.....	0	1s	.....	Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.41	747.0	30.27	768.8	30	— 1.1	78	S	5	2.2	.....	.....	10s	.....	S	0	0	Cloudy	
Port Huron, Michigan	29.37	746.0	30.08	764.0	23	— 5.0	86	S	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
Portland, Maine	30.18	766.6	30.24	768.1	22	— 5.6	72	NW	4	1.8	.....	5k	5s	Calm	Calm	0.16	4.1	Cloudy	
Portland, Oregon	29.90	759.4	30.00	762.0	40.0	4.4	87	S	12	5.4	.....	0	2s	.....	S	0.51	13.0	Clear	
Prescott, Arizona	24.90	632.4	30.26	768.6	32	0.0	69	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.12	739.6	29.97	761.2	40	4.4	73	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.21	767.3	30.23	767.8	65	18.3	84	NE	7	3.1	.....	.....	10s	.....	E	0	0	Cloudy	
Red Bluff, California	29.64	752.8	30.00	762.0	52	11.1	93	S	8	3.6	.....	.....	10s	.....	Calm	0.73	18.5	Cloudy	
Rio Grande City, Texas	30.07	763.8	30.29	769.4	49	9.4	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.55	750.6	30.21	767.3	25	— 3.9	75	SW	5	2.2	.....	5ck	0	W	.....	0.01	0.3	Fair	
Roseburg, Oregon	29.46	748.3	30.06	763.5	30.0	— 1.1	100	Calm	0	0	.....	0	0	.....	.....	1.21	30.7	Clear	
Sacramento, California	29.97	761.2	30.05	763.3	52.8	11.6	90	S	6	2.7	.....	.....	10n	.....	Calm	0.720	18.29	Light rain	
St. Louis, Missouri	29.55	750.6	30.15	765.8	33	0.6	70	S	12	5.4	.....	2cs	0	.....	.....	0	0	Fair	
St. Marks, Florida	30.30	769.6	30.32	770.1	42	5.6	91	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.72	729.5	29.55	750.6	31	— 0.6	89	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.62	650.7	29.96	761.0	48	8.9	43	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.51	749.5	30.11	764.8	46	7.8	92	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.02	762.5	30.09	764.3	48.2	9.0	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.49	749.0	30.20	767.1	28	— 2.2	88	SW	8	3.6	.....	8c	0	N	.....	0	0	Fair	
Sandy Hook, New Jersey	30.32	770.1	30.35	770.9	27	— 2.8	76	NE	6	2.7	.....	2cs	5s	W	W	0	0	Cloudy	
San Francisco, California	29.98	761.5	30.05	763.3	57	18.9	93	S	14	6.3	.....	.....	10n	.....	Calm	0.91	23.1	Light rain	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	30	— 1.1	57	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.23	767.8	30.33	770.4	50	10.0	93	NW	2	0.9	.....	1ck	Fog	SW	Calm	0	0	Clear	
Shreveport, Louisiana	30.02	762.5	30.24	768.1	52	11.1	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico	24.42	620.3	30.72	780.3	40	4.4	64	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.28	769.1	30.32	770.1	46	7.8	92	N	7	3.1	.....	1cs	0	a m	.....	0	0	Clear	
Springfield, Massachusetts	30.19	766.8	30.34	770.6	23	— 5.0	73	S	1	0.4	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Stockton, Texas	27.07	687.6	30.07	763.8	40	4.4	56	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.26	768.6	30.31	769.9	29	— 1.7	56	W	12	5.4	.....	0	5s	.....	SW	0	0	Fair	
Toledo, Ohio	29.41	747.0	30.13	765.3	27	— 2.8	88	S	10	4.5	.....	0	8s	.....	NW	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	41	5.0	56	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.30	769.6	30.34	770.6	50	10.0	86	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.67	753.6	30.28	766.6	32.0	0.0	89	E	2	0.9	.....	0	0	.....	.....	0.12	3.0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	40	4.4	82	SE	.....	.....	2	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.32	744.7	30.17	766.3	46	7.8	77	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.04	763.0	30.31	769.9	48	8.9	100	SW	2	0.9	.....	.....	Fog	.....	.....	0.13	3.3	Foggy	
Virginia City, Montana	23.97	608.8	29.45	748.0	38	3.3	72	SW	10	4.5	.....	.....	10n	.....	NW	0.09	2.3	Light hail	
Visalia, California	29.74	755.4	30.12	765.0	53	11.7	73	E	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Washington, D. C.	30.27	768.8	30.39	771.9	29	— 1.7	89	Calm	0	0	.....	8ck	2s	NW	NW	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	40	4.4	48	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.22	767.6	30.30	769.6	49	9.4	77	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	43	6.1	75	W	10	4.5	.....	0	8ks	.....	SW	0.03	0.8	Cloudy	
Wood's Holl, Mass	30.29	769.4	30.33	770.4	28	— 2.2	88	N	1	0.4	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Yankton, Dakota	28.35	720.1	29.61	752.1	46	7.8	54	SW	12	5.4	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.91	759.7	30.08	764.0	50	10.0	32	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.54	724.9	29.99	761.7	41	5.6	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.11	764.8	30.16	766.1	71	21.7	85	Calm	0	0	.....	5c	0	Calm	.....	0.03	0.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.19	766.8	30.20	767.1	77	25.0	86	Calm	0	0	.....	5c	2s	SE	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.97	761.2	30.05	763.3	80	26.7	.....	E	8	3.6	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	83	NE	.....	.....	3	.....	8ks	NE	.....	0.030	0.76	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.86	758.4	29.92	760.0	—29.0	—33.9	.....	NW	8	3.6	.....	.....	2s	.....	NW	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,323 (?) ft., or 403.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,737 (?) ft., or 529.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,293 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,170.7 ft., or 4,318.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.. Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.. Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.00	762.0	54	12.2	51.5	10.8	96	SW	9	4.0	.....	.....	10	.....	S;W	1.06	26.9	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.38	771.6	54	12.2	54	12.2	100	NE	2	0.9	.....	.....	8	.....	.....	.....	.....	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.20	767.1	53	11.7	22	— 5.6	86	WSW	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan *	30.11‡	764.8‡	.....	.....	38	3.3	67	N	.....	.....	1	.....	10k;ks	.....	SW	Inap.	Inap.	.....	.....	Cloudy.....	
Alaska, N. 58° 44′, W. 83° 59′	30.00	762.0	81	27 2	79	26.1	82	WSW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Alliance, Smyrna, Turkey	30.35‡	770.9‡	.....	.....	49	9.4	57	WNW	.....	.....	1–2	.....	1	.....	Calm	.....	.....	.....	.....	Clear.	
Ashuelot, Saigon, Cochin China..	29.98	761.5	83	28.3	81	27.2	74	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear..	
Canonicus, New Orleans, La.....	30.24	768.1	42	5.6	53	11.7	100	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.....	30.02	762.5	24	— 4.4	24	— 4.4	100	NE	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Constitution, Portsmouth, England....	29.91‡	759.7‡	.....	.....	34	1.1	90	ENE	14	6.3	.....	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	30.43‡	772.9‡	.....	.....	48	8.9	49	ENE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Clear.....	
Essex, S. 45° 24′, W. 63° 14′	29.74	755.4	65	18.3	63	17.2	94	E	.....	.....	5	.....	5	.....	NE	.....	.....	Long	NE	Fair.....	
Franklin, Norfolk, Va.....	30.47	773.9	73	22.8	38	3.3	81	NNE	3	1.3	.....	.....	8	.....	N	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.99‡	761.7‡	.....	.....	49	9.4	100	NNE	.....	.....	3	.....	10	.....	.....	0.6	15.	.....	.....	Raining.....	
Hartford, Montevideo, Uruguay...	29.84	757.9	75	23.9	72	22.2	95	E	12.0	5.4	.....	.....	10	.....	E	0.70	17.8	.....	.....	Drizzling.....	
Lackawana, Panama *.....	29.67‡	753.6‡	.....	.....	77	25.0	91	NW	.....	.....	2	.....	2	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Erie, Pa.....	30.08†	764.0†	...	.....	27	— 2.8	76	S	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy.* Inland Sea, Japan.....	30.30‡	769.6‡	.....	.....	44	6.7	72	WNW	.....	.....	2	.....	5	.....	WNW	.....	.....	.....	.....	Fair	
Monongehela, Yokohama, Japan	30.11‡	764.8‡	.....	.....	36	2.2	100	NE	.....	.....	2	.....	10	.....	NE	0	0	.....	.....	Overcas	
New Hampshire, Port Royal, S. C.....	30.42†	772.6†	.....	.....	51	10.6	93	WNW	2	0.9	.....	.....	0?	.....	WSW?	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	72	22.2	80	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.45	773.4	27	— 2.8	14	—10.0	82	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	28	— 2.2	88	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Pensacola, Panama.....	29.85‡	758.2‡	.....	.....	78	25.6	91	NW	2	0.9	.....	.....	2	.....	NW	0	0	Smooth	SE	Fair.....	
Powhatan, Norfolk, Va.....	30.33	770.4	38	3.3	38	3.3	90	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, N. 36° 21′, W. 37° 14′	30.50‡	774.7‡	.....	.....	63	17.2	83	W	.....	.....	3	.....	2	.....	W	.....	.....	Mod'ate	W	Clear.....	
Ranger. Yokohama, Japan.....	30.10‡	764.5‡	.....	.....	45	7.2	76	NW	.....	.....	1	.....	10	.....	Calm	.....	.....	Smooth	.....	Overcast.....	
Richmond, N. 35° 53′, W. 32° 07	30.48‡	774.2‡	.....	.....	60	15.6	70	WNW	.....	.....	2–3	.....	2	.....	.....	.....	.....	Smooth.	N	Clear.....	
Rio Bravo, Brownsville, Texas.....	30.14	765.5	60	15.6	55	12.8	100	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Sonoma, Annapolis, Md	30.35‡	770.9‡	.....	.....	31	— 0.6	.....	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.20	767.1	63	17.2	25	3.9	.....	SSW	1	0 4	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy	
Supply, N. 39° 20′, W. 16° 40′	29.82‡	757.4‡	.....	.....	58	14.4	82	W	.....	.....	5–8	.....	10	.....	.....	.....	.....	Mod'ate	NW	Hail & rian..	
Trenton Villafranca, France *...	29.87‡	758 7‡	.....	.....	63	17.2	67	WSW	.....	.....	2	.....	10	.....	W	0	0	.....	.....	Overcast.....	
Tuscarora, N. 7° 28′, W. 79° 48′	29.85‡	758.2‡	.....	.....	79	26.1	86	WNW	.....	.....	4	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.37‡	771.4‡	.....	.....	22	— 5.6	72	W	5	2.2	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Wyoming, Naples, Italy.....	29.97	761.2	67	19.4	63	17.2	89	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 30° 34′, W. 117° 08′		30.05*	763.3*	61	16.1	88	NW			3		0				Small	NW	Blue sky	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Grenada																			R. C. Ghest, 1st Officer
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		29.82	757.4				Calm			0		10		NE				Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Myer, N. 35° 44′, W. 133° 57′		29.99*	761.7*	56	13.3	87	W			6		ks		W		Rough cross	NW	D. clouds	J. A. Thompson, 2d Off
S. S. Gaelic, N. 44° 10′, W. 147° 20′		30.17†	766.3†	44	6.7	??	NW			6		k		NW	Blank	High	W	Squally	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 47° 30′ W. 11° 15′		29.78	756.4	47.0	8.3	62	SE			3		10		E	0	Smooth	SE	Cloudy	L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 09', W. 32° 50'.....	.....	30.01*	762.2*	42	5.6	92	NW	.....	.....	4	.....	2	.....	NW	Blank	Heavy	NW	.....	Captain Sargent.
S. S. Ohio, N. 44° 21', W. 53° 18'.....	.....	29.52†	749.8†	40	4.4	91	NW	.....	.....	6	.....	10	.....	N	Blank	Mod'ate	WNW	Cloudy.....	Captain Morrison.
S. S. Pennsylvania, Capt. Harris ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian. N. 46° 17', W. 47° 36'... ...	.....	29.35*	745.5*	35	1.7	.....	WSW	.....	.....	6	.....	10s;fg	.....	.....	Blank	Heavy Confused.	NW	Foggy	Capt. W. Richardson.
S. S. Hibernian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, Off Shinnecock Light-house, Long Isl'd	.....	30.20	767.1	31	—0.6	79	Calm	0	0	.....	.....	8k	.....	Calm	0	Smooth	WSW	Cloudy.....	Capt. James Jorgensen
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

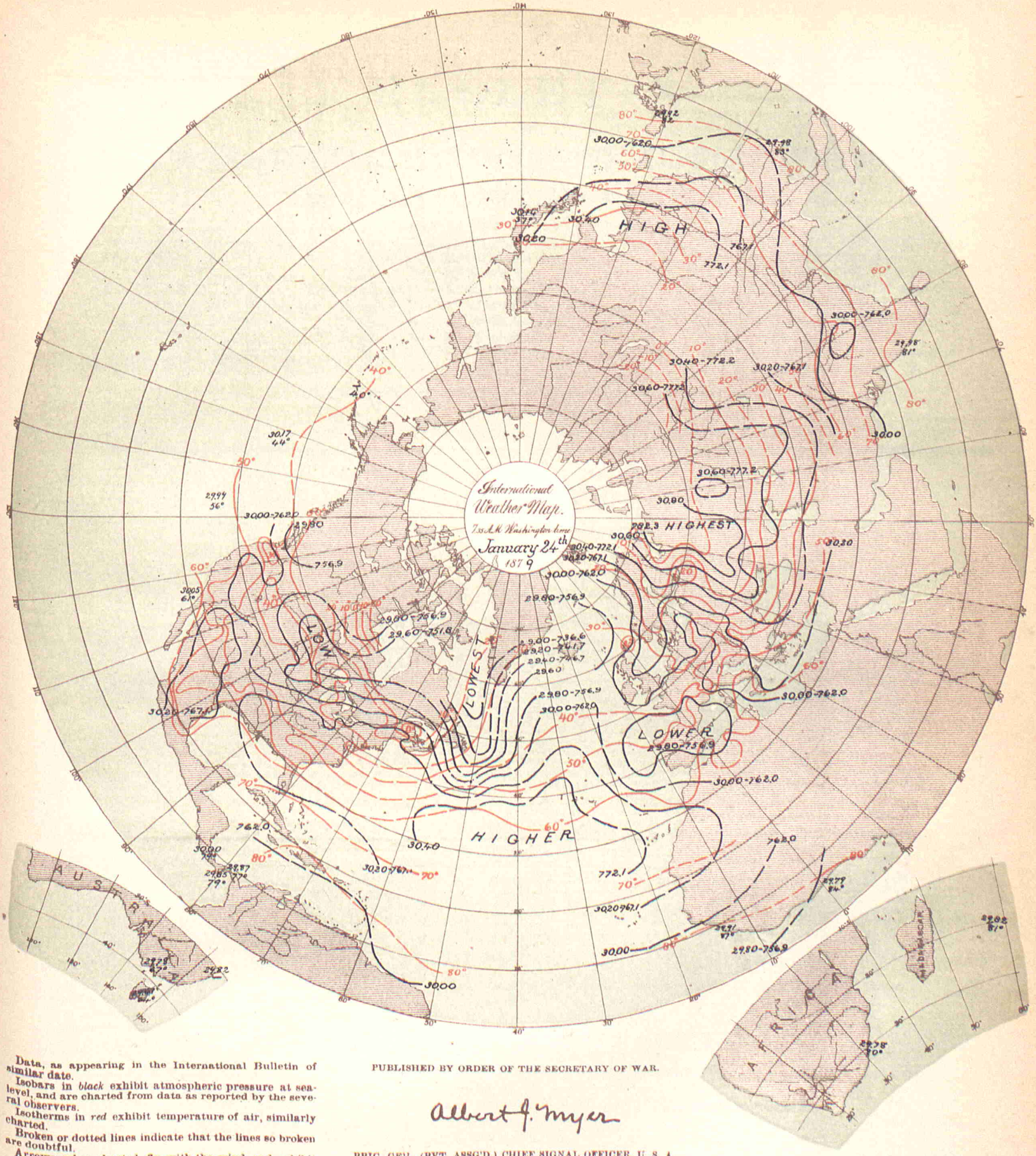
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 25, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—1r.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.17	766.3	60.1	15.6	86	SW	.....	.....	3	.....	8	.....	.....	0.374	9.5	Very cloudy	
Nemours	.....	.....	29.89	759.1	65.7	18.7	70	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kosxuche.
Algiers	.....	.....	29.80	756.8	60.8	16.0	64	W	.....	.....	6	.....	2	.....	.....	0	0	Fair	Tourilliere.
La Calle	.....	.....	29.91	759.6	63.7	17.6	65	NW	.....	.....	3	.....	8	.....	.....	0.316	8.0	Very cloudy	Foufrede.
Tunis	.....	.....	29.87	758.8	61.0	16.1	65	NW	.....	.....	4	.....	8	.....	.....	0.059	1.5	Very cloudy	Jacques.
Sfax	.....	.....	29.98	761.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.84	758.0	53.6	12.0	46	W	.....	.....	3	.....	10	.....	.....	0.094	2.4	Covered	Herbin.
Tebessa	.....	.....	29.99	761.8	46.2	7.9	57	SW	.....	.....	2	.....	10	.....	.....	0.047	1.2	Covered	Watrin.
Geriville	.....	.....	29.87	758.7	49.6	9.8	100	NNW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	29.98	761.4	55.0	12.8	44	S	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Bertrand.
Biskra	.....	.....	29.96	760.9	60.4	15.8	64	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—1r.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.48	748.7	30.03	762.8	49.6	9.8	76	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.31	744.4	30.10	764.6	36.7	2.6	82	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.21	741.9	30.14	765.5	34.5	1.4	74	Calm	.....	.....	0	.....	5cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.72	729.6	30.00	762.1	42.4	5.8	88	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.67	728.3	30.19	766.7	29.3	— 1.5	86	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.60	726.4	30.00	761.9	33.3	0.7	92	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.08	738.6	30.12	765.1	28.8	— 1.8	96	SE	.....	.....	1	.....	9	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	29.93	760.1	30.04	762.9	56.5	13.6	67	ESE	.....	.....	1	.....	9	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.68	753.8	30.16	766.0	41.0	5.0	72	E	.....	.....	2	.....	5	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.82	757.3	30.11	764.7	36.1	2.3	72	S	.....	.....	2	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.97	761.3	30.08	763.9	54.3	12.4	89	Calm	.....	.....	0	.....	7	.....	.....	0	0	.....	P. Busin.
Vienna	29.32	744.8	30.07	763.8	34.5	1.4	96	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—1r.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.13	765.3	30.23	767.8	32.0	0.0	.....	SW	5	2.2	.....	.....	8	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.23	767.8	32.3	0.2	.....	WSW	2	0.9	.....	.....	9	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.20	767.1	32.0	0.0	.....	E	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.17	766.3	31.2	— 0.4	.....	E	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.78	756.4	30.18	766.6	33.1	0.6	.....	E	.....	.....	1	.....	8	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	79.0	26.1	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.10	764.5	33.0	0.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [O.
Cardington	.....	.....	30.18	766.6	32.4	0.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.96	761.0	30.10	764.5	31.7	— 0.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Corpl. Davis.
Dartmoor	28.49	723.6	30.03	762.8	29.0	— 1.7	.....	NE	.....	.....	5	.....	4	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.18	766.6	30.23	767.8	33	0.6	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.99	761.7	30.02	762.5	34	1.1	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	J. Costello.
Falmouth, Observatory	29.87	758.7	30.12	765.0	31.8	— 0.1	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.37	695.2	29.69	754.1	74.2	23.4	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.70	754.4	29.93	760.2	86	30.0	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.17	766.3	32	0.0	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.74	755.4	29.80	756.9	52.8	11.6	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Drizzling.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.01	762.2	30.22	767.6	22.8	— 5.1	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	30.07	763.8	30.08	764.0	32	0.0	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast.....	G. T. Watson.
Greenwich, Royal Obs'y	29.90	759.4	30.08	764.0	31.6	— 0.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.76	755.9	29.99	761.7	37	2.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S.
Helston	30.02	762.5	30.15	765.8	33	0.6	.....	NE	.....	.....	4	.....	10k	.....	.....	0	0	Overcast.....	M. P. Moyle.
Holyhead	30.13	765.3	30.08	764.9	32	0.0	.....	E	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.69	754.1	29.99	761 7	35.7	2.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy.....	J. Fisher.
Kew, Observatory	30.04	763.0	30.07	763.8	32.2	0.1	.....	NE	16	7.2	.....	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
Leicester, Museum	29.90	759.4	30.15	765.8	32.1	0.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	65	18.3	.....	SE	.....	.....	2	.....	4k	.....	.....	Blank	Blank	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	30.05	763.3	30.14	765.5	32	0.0	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.18	766.6	71.0	21.7	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.97	761.2	30.17	766.3	32.1	0.1	.....	NNE	.....	.....	3	.....	10	.....	.....	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.60	751.8	30.16	766.1	30.0	— 1.1	.....	NNE	.....	.....	2-3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.07	763.8	31	— 0.6	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	30.01	762.2	30.08	764.0	33.8	1.0	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	30.14	765.5	30.18	766.6	33	0.6	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	29.99	761.7	30.17	766.3	31	— 0.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.15	765.8	33.1	0.6	.....	SW	14	6.3	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.16	766.1	47.6	8.7	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.94	760.5	30.24	768.1	33.3	0.7	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.18	766.6	30.21	767.3	31.8	— 0.1	82	NE	.....	.....	1	.....	2	.....	.....	0	0	D. clouds.....	F. H. Redford.
Stonyhurst, Observatory	29.79	756.7	30.19	766.8	32.9	0.5	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Strathfield Turgiss	.....	.....	.....	.....	31.6	— 0.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. H. Griffith, F.M.S
Thurso	30.07	763.8	30.14	765.5	30	— 1.1	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro, Royal Institution	.....	.....	29.08	738:6	34	1.1	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	30.18	766.6	30.20	767.1	35.4	1.9	.....	SE	10	4.5	.....	.....	10	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.82'	757.4	57	13.9	83	NW	.....	.....	3	.....	10k	.....	.....	0.55	14.0	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.26	768.6	30.0	— 1.1	.....	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast.....	Andrew Gibb.
Mauritius, Observatory	29.65	753.1	29.83	757.8	84.4	29.1	68	WSW	12.5	5.6	.....	0	4	.....	W	0.98	24.9	Fine.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	62.0	16.7	80	S	12	5.4	.....	.....	6	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.04	763.0	38	3.3	.....	SSW	.....	.....	6	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.90	759.4	39	3.9	.....	SW	.....	.....	7	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	
Brig Catherine,	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle,	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile.
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	63.0	17.2	85	SE	.....	.....	1	2s	.....	E	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.31	769.8	30.35	771.0	21.4	— 5.9	80	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	30.29	769.4	30.31	769.9	19.2	— 7.1	90	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.44	747.7	29.48	748.8	9.5	— 2.5	77	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.87	758.8	29.91	759.7	34.5	1.4	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.19	766.7	30.35	771.0	17.2	— 8.2	71	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.44	747.7	29.99	761.7	32.0	0	97	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.87	758.7	29.99	761.7	32.7	0.4	92	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.77	756.2	29.85	758.2	54.5	12.5	90	N	.....	.....	1	.....	10	.....	.....	0.150	3.8	Rainy	M. Giraud, Director.
Bar-sur-Seine	29.35	745.6	29.93	760.3	41.5	5.3	90	WSW	.....	.....	1	.....	8kn	.....	.....	0.181	4.6	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.71	754.6	30.01	762.2	32.0	0	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.99	736.3	29.89	759.2	50.5	10.3	76	ENE	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	28.98	736.2	29.87	758 8	50.0	10	74	NW	.....	.....	1	.....	10n	S	S	0	0	Covered	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.72	754.8	29.96	761.0	37.4	3.0	83	NE	.....	.....	2	.....	10	.....	NE	.....	.....	Raining	M. de Rermaur, Director.
Carcassonne, Normal School	29.44	747.8	29.86	758.5	48.2	9	92	NE	.....	.....	1	.....	5	W	W	0.768	19.5	Cloudy	September, Director.
Caen, Normal School	29.86	758.5	29.94	760.4	32.7	0.4	92	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.35	745.6	29.95	760.7	32.0	0	96	N	.....	.....	3	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.62	752.4	29.95	760.8	33.8	1.0	93	N	.....	.....	1	.....	10	.....	.....	0.028	0.7	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.51	724.1	29.87	758.7	50.0	10.0	86	NW	.....	.....	1	.....	10	.....	.....	0.315	8.0	Covered	Alluard, Director.
Commercy, Normal School	29.06	738.2	29.96	760.9	44.2	6.8	88	SW	.....	.....	1	.....	8ck	.....	SW	0.047	1.2	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.70	729.0	29.84	757.0	52.0	11.1	71	SE	.....	.....	8	.....	10	.....	SE	0	0	Covered	M. Ablard, Director.
Grenoble, Normal School	29.13	739.9	29.91	759.7	46.4	8	77	E	.....	.....	1	.....	10n	.....	S	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.75	755.6	29.97	761.3	31.3	— 0.4	96	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.65	753.0	29.97	762.2	32.0	0	100	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.96	735.6	29.89	759.1	49.1	9.5	89	W	.....	.....	2	.....	10	.....	W	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	29.90	759.4	30.00	761.9	37.8	3.2	93	NW	.....	.....	2	.....	.....	W	NW	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.86	733.0	29.92	759.9	46.8	8.2	81	NE	.....	.....	3	.....	kn	.....	SW	0 04	1.	Foggy	M. Barbier, Director.
Nismes, Normal School	29.80	756.8	30.00	762.0	55.0	12.8	83	E	.....	.....	4	.....	10	.....	SW	0.404	10.25	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.98	634.4	.....	.....	35.6	2.0	100	S	.....	.....	3	.....	.....	.....	.....	0.047	1.2	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.2	29.96	761.0	37.0	2.8	96	E	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Lt. Decante, Director.
Rouen, Normal School	29.88	758.9	29.97	761.1	33.4	0.8	85	NNE	.....	.....	1	.....	10	.....	.....	0.035	0.9	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.93	760.2	29.96	760.9	35.8	2.1	82	SSE	.....	.....	1	.....	10	SSE	SSE	0	0	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.79	756.7	29.96	760.9	32.5	0.3	92	N	.....	.....	1	.....	10	.....	.....	0.024	0.6	Covered	E. Renou, Director.
Tarbes, Normal School	28.73	729.8	29.82	757.3	50.0	10	70	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.11	739.4	29.82	757.5	51.8	11	85	SE	.....	.....	1	.....	10	.....	.....	0.481	12.2	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.97	761.3	30.00	762.0	73.4	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.43	11.	.....	L'Abbé Marchés.
Lyons, Observatory	.....	.....	29.88	758.9	49.5	9.7	85	S	.....	.....	1	.....	10	.....	.....	0.008	2.0	Misty	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.71	627.6	30.02	762.6	34.7	1.5	87	SE	7.4	3.3	.....	.....	10	.....	.....	0.004	1.0	.....	M. Cave.
Nice	.....	.....	29.90	759.5	57.9	14.4	57	E	.....	.....	8	.....	10	.....	.....	.....	.....	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.67	753.6	.....	.....	31.6	— 0.2	92	N	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Foggy	Marié Davy, Director
Perpignan	29.72	755.0	29.83	757.7	52.2	11.2	84	NE	5.6	2.5	.....	.....	10	.....	.....	0.862	21.9	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.24	565.0	.....	.....	30.2	— 1.0	.....	S	.....	.....	1	.....	8	.....	.....	0	0	Cloudy	Gen'l de Nansouty.
Toulouse, Observatory	29.17	740.9	29.93	760.1	45.3	7.4	100	NW	.....	.....	2	.....	10	.....	.....	0.717	18.2	Light rain	M. Mercadier Julier.
Tours	29.75	755.6	29.95	760.6	33.8	1.0	96	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Cousin-Marquet.
Versailles Observatory	.....	.....	29.94	760.5	32.4	0.2	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Light fog	Dr. A. Bérigny, Director
Zi-Ka-Wei, (near Shanghai)	30.51	774.9	30.53	775.5	34.3	1.3	78	N	3.1	1.4	.....	.....	9k	.....	.....	0	0	Covered	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586 40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.5	30.00	761.9	34.0	1.1	81	NW			4		6	NW		0.008	0.2		Prof. Dr. Hoh.
Berlin	30.05	763.3	30.23	767.9	31.5	— 0.3	89	N			1		10			0.287	7.3		Prof. Arndt.
Breslau	29.61	752.1	30.14	765.6	31.3	0.4	100	WNW			1		10			0	0	Dense fog.	Royal University Obs'y
Carlsruhe	29.51	749.6	29.99	761.7	43.2	6.2	76	NE			1		9	SW		0	0		Albert Senx.
Cassel	29.48	748.8	30.09	764.3	33.4	0.8	84	ENE			1		10	NNE		0	0		Dr. H. Möhl.
Crefeld	29.82	757.5	29.98	761.6	32.9	0.5	90	NE			3		10			0	0		Director Lose.
Emden					28.6	— 1.9	84	NE			3		10			0	0		Prof. Prestel.
Frankfort on the Main	29.65	753.1	30.03	762.7	35.6	2.0		NNE			3		8			0.012	0.3		Physical Society.
Friedrichshafen	28.47	723.0	29.92	759.9	46.4	8.0	56	E			1		6	S		0	0		M. Wilhelm.
Hamburg	29.97	761.3	30.05	763.2	28.0	— 2.2	94	ENE			4		10			0	0	Foggy	Captain F. Hegemann
Kiel	30.27?	768.8?	30.28?	769.2?	28.2	— 2.1	82	NE			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.15	765.7	30.23	767.9	33.4	0.8	86	N			3		4			0.024	0.6	Snowing	Prof. E. Luther.
Köslin			30.24	768.0	29.3	— 1.5		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.74	755.3	30.18	766.6	29.5	— 1.4	100	ENE			2		10			0.157	4.0	Foggy	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.21	767.4	30.26	768.6	29.5	— 1.4	90	NNE			2		7ks						Skalweit.
Neufahrwasser	30.31	769.9	30.29	769.3	32.9	0.5	87	NNE			3		10			0.016	0.4		A. Lothes.
Posen	29.93	760.2	30.23	767.9	32.0	0.0	98	ENE			6		10			0.213	5.4	Raining	Dr. Magener.
Strassburg (in Alsace)	29.41	747.0	29.98	761.4	39.0	3.9	58	N			2		8	S		0.187	4.75		Imp. University Observatory.
Stuttgart	28.97	735.8	29.93	760.3	41.0	5.0	80	N			1		0			0	0	Foggy	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.45	722.6	30.05	763.2	38.1	3.4	80	Calm	0	0			7c	SW		0	0	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.29	769.3	30.31	769.9	27.3	— 2.6	92	E			2		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.75	755.7	30.15	765.8	54.5	12.5		NE			0.5							Smoky	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.95	760.6	30.00	761.9	75.7	24.3	15	NE				1		NE		0	0	D. clouds	
Deesa																			
Bombay	29.88	758.8	29.91	759.8	82.0	27.8	46	NNW	21.0	9.4		0				0	0	Blue sky	
Poonah	27.88	708.2	29.88	758.9	80.5	26.9		ENE				0				0	0	Blue sky	
Lahore	29.17	741.0	29.94	760.5	64.6	18.1	25	Calm	1.9	0.8		2				0	0	Blue sky	
Belgaum	27.37	695.2	29.89	759.1	81.2	27.3	48	Calm	0	0		3				0	0	D. clouds	
Roorkee	29.01	736.9	29.95	760.8	59.0	15.0	48	NW	1.2	0.5		0				0	0	Blue sky	
Agra	29.40	746.8	29.98	761.6	66.8	19.3	33	W				0				0	0		
Nagpur	28.90	734.2	29.96	761.0	76.6	24.8	34	Calm	1.4	0.6		0				0	0	Blue sky	
Lucknow	29.58	751.3	29.96	761.0	67.9	19.9	22	NNW	1.1	0.5		0				0	0	Blue sky	
Allahabad	29.64	753.0	29.97	761.2	62.3	16.8	40	Calm	1.6	0.7		0				0	0	Blue sky	
Patna	29.80	756.8	29.98	761.6	67.6	19.8	41	SW	1.6	0.7		0				0	0	Blue sky	
Hazaribagh	27.91	708.8	30.00	761.9	60.0	15.6	22	WSW	5.5	2.5		0				0	0	Blue sky	
Cuttack	29.88	758.8	29.96	761.0	72.5	22.5	70	N	1.0	0.4		0				0	0	Blue sky	
Calcutta (Alipore)	29.96	760.9	29.98	761.5	61.8	16.6	56	W	1.0	0.4		0				0	0	Blue sky	
Goalpara					65.4	18.6	44	Calm	1.4	0.6		0				0	0	Blue sky	
Chittagong	29.88	758.9	29.97	761.3	65.8	18.8	60	W	5.8	2.6		0				0	0		
Sibsagar	29.62	752.3	29.97	761.1	62.5	16.9	85	N	0.6	0.3		4				0	0	Blue sky	
Jubbulpore	28.58	726.0	29.99	761.7	65.4	18.6	46	Calm	1.8	0.8		0				0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,932.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.66	753.4	30.09	764.2	52.2	11.2	84	NE	0.7	0.3	.....	.....	10	.....	.....	0.740	18.8	.....	Prof. Giovanni Clodig.
Padua	29.95	760.8	30.07	763.7	53.4	11.9	84	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.54	750.4	30.09	764.2	40.6	4.8	100	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.17	740.9	30.11	764.9	40.1	4.5	93	ESE	0	0	.....	.....	10	NE	.....	0.732	18.6	.....	Prof. P. F. Denza.
Mondovi	28.13	714.5	30.11	764.7	36.0	2.2	95	WNW	.....	.....	2	.....	10	.....	.....	0.803	20.4	.....	Prof. D. C. Bruno.
Genoa	29.80	756.9	30.00	761.9	47.8	8.8	63	N	9.4	4.2	.....	.....	10	S	.....	0.197	5.0	.....	Prof. G. M. Garibaldi.
Florence	29.70	754.4	29.97	761.1	57.2	14.0	56	NE	.....	.....	2	.....	4	SE	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.84	757.8	29.92	760.0	61.9	16.6	57	ENE	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.99	761.8	30.04	763.1	42.4	5.8	97	NE	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.75	755.6	29.93	760.1	60.4	15.8	61	N	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.82	757.3	30.08	763.9	56.5	13.6	71	SW	18.6	8.3	.....	.....	8	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.58	751.3	29.77	756.2	55.6	13.1	89	SW	.....	.....	4	.....	10	.....	.....	0.370	9.4	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.2	30.01	762.3	52.5	11.4	74	NW	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.61	752.2	29.87	758.8	60.6	15.9	59	E	9.4	4.2	.....	.....	10	SE	.....	0.157	4.0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.7	29.95	760.6	59.0	15.0	85	NW	11.2	5.0	.....	.....	10	SE	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.42	747.3	29.98	761.4	57.7	14.3	69	SW	2.5	1.1	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.44	773.2	30.46	773.7	31.4	— 0.3	68	N	2.7	1.2	.....	.....	1ck	.....	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.29	769.3	30.50	774.7	31.6	— 0.2	64	NE	2.5	1.1	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.07	763.8	30.14	765.5	33.8	1.0	80	NE	4.9	2.2	.....	0	0	.....	.....	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.9	30.36	771.2	38.3	3.5	50	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.22	767.6	46.9	8.3	78	NW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.18	588.6	30.24	768.0	46.4	8.0	86	Calm	0	0	.....	0	7k	.....	SW	0.11	2.7	Cloudy	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	39.4	4.1	65	W	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.10	764.4	30.11	764.8	65.8	18.8	85	WSW	.....	.....	1	0	0	.....	.....	0.150	3.8	Hazy	M. M. Cházaro.
San Luis Potosi	24.24	615.7	30.32	770.1	38.0	3.3	36	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.13	765.3	30.16	766.0	69.8	21.0	81	Calm	.....	.....	0	.....	9sk	.....	N	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	22.21	564.1	.....	.....	46.4	8	56	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.43	596.0	30.18	766.5	42.8	6.0	80	N	2.2	1.2	.....	.....	5	.....	SSW	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.08	764.1	71.6	22.0	66	Calm	.....	.....	0	0	3	.....	.....	0	0	½ clouded	R. Banda, C. E.
San Juan E. Michapam	30.06	763.5	30.19	766.9	68	20	.....	N	.....	.....	1	4n	5k	N	N	0	0	Misty	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,569.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.04	762.9	30.04	762.9	31.8	— 0.1	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	30.08	764.1	30.14	765.5	28.4	— 2.0	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.11	764.7	30.11	764.7	28.4	— 2.0	.....	NE	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.02	762.4	30.02	762.4	31.5	— 0.3	100	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.01	762.3	30.06	763.5	31.5	— 0.3	79	ENE	.....	.....	4	.....	8	.....	.....	0.008	0.2	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.18	766.5	30.23	767.9	33.4	0.8	85	S	24.6	11.0	.....	.....	8	.....	.....	0.236	6.0	Heavy snow	
Brönö	29.86	758.4	29.90	759.4	52.0	0.0	78	S	22	10	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.11	764.7	30.27	768.8	17.1	— 8.3	94	NNW	7	3	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.95	760.8	30.00	761.9	18.3	— 7.6	78	Calm	0	0	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.23	767.8	30.42	772.7	55.0	12.8	83	NW	10.5	4.7	.....	.....	1	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.80	731.6	29.85	758.3	47.5	8.6	92	Calm	0	0	.....	.....	10	SE	.....	0.094	2.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.08	763.9	30.16	766.1	66.0	18.9	45	WNW	4.9	2.2	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.43	747.6	29.80	756.9	50.9	10.5	82	NE	8.7	3.9	.....	.....	10	W	.....	0.075	1.9	.....	The Staff.
Ponta Delgada, (Azores)	30.37	771.4	30.44	773.2	58.6	14.8	60	WNW	1.8	0.8	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers of the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	WSW	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Porto de S. Jose de Bissao, Senegambia	.....	ESE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, Port Mossamedes, Lower Guinea	3	SW	Blue sky	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	2	N	Overcast	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.73	755.1	30.17	766.4	32.5	0.3	81	E	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.89	759.2	30.34	770.7	20.7	— 6.3	94	S	2	1	.....	.....	10	.....	.....	.....	.....	Snowing	Astronomical Obs.
Dorpat	30.07	763.8	30.33	770.4	21.2	— 6.0	90	S	9	4	.....	.....	10n	.....	.....	.....	.....	Heavy snow	Prof. Dr. Weihrauch.
St. Petersburg	30.40	772.1	30.41	772.5	17.2	— 8.2	71	SSE	25	11	.....	.....	10n;s	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.82	757.3	30.53	775.4	6.8	—14.0	91	ESE	7	3	.....	.....	9c;ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.40	772.1	30.47	773.9	8.2	—13.2	76	N	13	6	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.31	769.8	30.33	770.3	27.0	— 2.8	92	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.24	768.2	30.87	784.0	4.6	—15.2	64	S	7	3	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.20	767.0	30.42	772.7	14.0	—10.0	80	ENE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.69	779.5	30.71	780.0	— 4.4	—20.2	72	ESE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.80	731.6	30.28	769.2	37.6	3.1	87	SE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Physical Observatory
Astrakhan	30.54	775.8	30.46	773.7	25.9	— 3.4	63	E	4	2	.....	.....	2s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.19	766.7	30.72	780.3	4.6	—15.2	63	WNW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.44	773.2	30.74	780.9	7.3	—13.7	56	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.50	749.2	30.56	776.1	12.7	—10.7	78	NNE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.07	763.6	30.31	769.8	29.8	— 1.2	35	NNE	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	
Tashkend	28.64	727.4	30.44	773.2	33.1	0.6	90	NW	2	1	.....	.....	10	.....	.....	.....	.....	Foggy	Teich, A. M.
Barnaul	29.93	760.2	30.51	775.0	7.0	—13.9	85	SW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Yeniseisk	30.52	775.3	30.88	784.3	—32.1	—35.6	78	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.50	774 6	30.64	778.2	14.5	— 9.7	68	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.80	765.9	29.89	759.1	—15.3	—26.3	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.67	753.6	29.78	756 3	56.8	13.8	64	E	1.4	0.61	.....	.....	6k	.....	.....	0.012	0.31	½ covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.87	758.8	29.93	760.3	46.8	8.2	98	E	1.7	0.74	.....	.....	10	.....	.....	0.614	15.6	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.87	682.6	.....	.....	38.8	3.8	93	E	5.4	2.40	.....	.....	8	.....	.....	0.165	4.2	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.62	701.5	.....	.....	44.8	7.1	81	S	2.2	1.00	.....	.....	10	.....	.....	0.083	2.1	Covered	The Staff.
Murcia, Met. Obs'y	29.68	753.9	29.83	757.7	63.0	17.2	63	NW	1.2	0.56	.....	.....	3	.....	.....	0.029	0.72	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.94	735.1	29.85	758.2	48.4	9.1	68	NE	1.4	6.1	.....	.....	8	.....	.....	0.020	0.5	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.10	764.5	30.17	766.2	69.8	21.0	92	ENE	2.2	1.0	.....	5c	1k	WSW	.....	0.248	6.3	Fair	Benito Vines, S. J.
Manilla, Philippine Islands,	29.90	759.6	29.96	761.0	80.4	27.0	71	ENE	0	0	.....	0?	0?	.....	.....	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.75	755.6	29.85	758.1	59.4	15.2	77	SSE	5.2	2.3	.....	0	10	.....	SSW	0.520	13.2	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.02	762.5	30.11	764.8	75.2	24.0	92	SE	0	0	.....	km	3kn	E	E	0.089	2.25	Cloudy	Leonardo de Tejeda, C h'f Eng'e

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.20	767.1	30.24	768.1	15.8	— 9.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0.197	5.0	Snowing.....	
Umea	30.19	766.7	30.24	768.0	5.7	—14.6	90	NW	.....	.....	2	.....	10	.....	.....	0.063	1.6	Snowing.....	
Hernosand	30.18	766.5	30.23	767.8	— 2.6	—19.2	100	N	.....	.....	2	.....	5	.....	.....	0.008	0.2	Snowing.....	
Stockholm	30.11	764.8	30.29	769.3	10.2	—12.1	89	Calm	.....	.....	0	.....	0	.....	.....	0.087	2.2	.....	
Wisby	30.19	766.8	30.25	768.3	24.8	— 4.0	87	NE	.....	.....	6	.....	5	.....	.....	0.173	4.4	.....	
Sub-Series.																			
Upsala	30.18	766.7	30.26	768.5	7.3	—13.7	88	SSW	2.	1.2	.....	.....	0	NW	.....	0.016	0.04	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor F. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	723.3	29.93	760.2	45.0	— 7.2	69	SSW	.....	.....	2	.....	7	.....	.....	0.008	0.2	.....	The Observatory.
Zurich	28.28	718.2	29.89	759.2	44.2	— 6.8	77	NW	.....	.....	1	.....	5	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.0 mm.; Thermometer, +5.3 cent.; Relative Humidity, —8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.21	767.2	44.6	7.0	71	NE	7	3.0	.....	.....	0	.....	.....	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	30.09	764.2	56.8	13.8	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.96	761.0	30.08	764.0	63.1	17.3	58	W	.....	.....	1	.....	5ks	.....	W	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.77	756.1	29.84	757.9	14.6	— 9.7	74	SW	17.5	7.8	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.30	744.2	29.62	752.3	31	— 0.6	.....	SW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy.....	W. R. Bigg.
*Chatham, N. B	29.63	752.6	29.70	754.4	28	— 2.2	94	Calm	0	0	.....	.....	10n	.....	SW	0.12	3.0	Light snow.	G. A. Blair.
Charlottetown, P. E. Island	29.65	753.1	29.69	754.1	30	— 1.1	98	SW	4	1.8	.....	.....	10n	.....	Calm	0.150	3.81	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.44	747.8	29.64	752.8	27.9	— 2.3	94	W	.....	.....	1	.....	10s	.....	.....	0.10	2.5	Overcast.....	James Smith, M. A
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	H. A. Johnson
Esquimault, B. C	29.62	752 3	29.67	753.6	37.1	2.8	92	N	.....	.....	.....	.....	10n	.....	.....	0.01	0.3	Overcast.....	W. H. Bevis.
*Father Point, Quebec	29.88	758.9	29.90	759.4	— 3	—19.4	66	N	30	13.4	.....	5e	2s	NE	N	0.01	0.3	Fair	J. McWilliams.
Fredericton, N. B	29.65	753.1	29.72	754.9	27.0	— 2.8	98	Calm	0	0	.....	2cs	Fog	.....	.....	0.22	5.6	Hazy.....	Prof. Harrison.
*Fort Garry Manitoba	29.43	747.5	30.35	770.9	18	—27.8	100	S	2	0.9	.....	0	0	.....	.....	0.135	3.43	Clear.	James Stewart.
Granton, Ontario	28.60	726.4	29.73	755.1	33	0.6	.....	SW	.....	.....	2	2cs	0	SW	.....	0	0	Fair.....	James Grant.
*Halifax, N. S	29.58	751.3	29.71	754.6	34	1.1	97	SW	8	3.6	.....	.....	10n	.....	.....	0.020	0.51	Light snow.	F. Allison, M. A.
Hamilton, Ontario	29.39	746.5	29.77	756.1	32.5	0.3	86	SW	.....	.....	3	10ck	0	W	.....	0	0	Overcast.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.83	757.7	29.86	758.4	31	- 0.6	100	SW	.....	.....	3	.....	10	.....	.....	0	0	Overcast.....	E. Weedon.
*Kingston, Ontario	29.33	745.0	29.67	753.6	32	0.0	85	SW	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.67	753.6	29.71	754.6	32.7	0.4	84	S	5	2.2	.....	.....	10n	.....	Calm	0	0	Overcast.....	C. H. Rigby.
Moose Factory, Ontario	30.16	766.1	30.20	767.1	—29.5	—34.2	100	N	.....	.....	1	3cs	0	.....	.....	0	0	Fair.....	J. R. Nason.
*Montreal, Quebec	29.41	747.0	29.62	752.3	30	— 1.1	95	NW	2	0.9	.....	8k	2s	NW	.....	0.32	8.1	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	28.88	733 5	29.58	751.3	33	0.6	95	SW	16	7.2	.....	.....	10n	.....	SW	0.07	1.8	Light snow.	Rev. R. Mosley.
Peterboro, Ontario	28.89	733.8	29.66	753.4	31.7	- 0.2	87	Calm	.....	.....	.....	.....	10s	.....	.....	.....	.....	Cloudy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.06	738.1	29.78	756.4	28	— 2.2	88	S	10	4.5	.....	10k	0	SW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.72	754.9	29.77	756.1	33.6	0.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0.10	2.5	Snowing.....	Peter Grant.
Port Stanley, Ontario	29.15	740.4	29.83	757.7	28	— 2.2	94	W	.....	.....	.....	.....	8ks	.....	W	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.36	745.7	29.70	754.4	18	- 7.8	100	NE	.....	.....	8	.....	10n	.....	NE	0.15	3.8	Heavy snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.11	739.4	29.58	751.3	28	— 2.2	94	Calm	0	0	.....	.....	10n	.....	.....	0.17	4.3	Light snow.	W. H. McIntyre.
St. Andrews, N. B	29.63	752.6	29.68	753.9	30	— 1.1	91	Calm	.....	.....	0	.....	10n	.....	.....	0.05	1.3	Cloudy.....	Dr. Gove.
St. John, N. B	29.52	749.8	29.69	754.1	31	— 0.6	100	NW	4	1.8	.....	.....	10s	.....	.....	0.43	10.9	Overcast.....	G. Murdock, C. E.
*Saugeen, Ontario	28.91	734.3	29.64	752.8	33	0.6	91	SW	11	4.9	.....	.....	10ks	.....	W	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.77	730.7	29.76	755.9	34	1.1	85	S	20	8.9	.....	.....	8n	.....	S	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.40	721.3	29.72	754.9	31.0	— 0.6	88	W	17	7.6	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.74	755.4	29.78	756.4	32	0.0	88	SW	12	5.4	.....	.....	10n	.....	SW	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.34	745.2	29.74	755.4	30	— 1.1	82	SW	12	5.4	.....	.....	10n	.....	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.59	751.6	29.69	754.1	33.5	0.8	95	SW	11	4.9	.....	0	0	.....	.....	.....	.....	Snowing.....	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	28.0	— 2.2	100	S	.....	.....	.....	.....	10	.....	.....	0.55	14.0	Overcast.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.5,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.54	750.3	29.77	756.1	32	0.0	79	S	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Alpena, Michigan	29.02	737.1	29.67	753.6	34	1.1	70	W	24	10.7	.....	0	5s	.....	W	0	0	Fair	
Atlanta, Georgia	29.06	738.1	30.22	767.6	53	11.7	79	W	11	4.9	.....	5c;hz	Sm'e	Calm	Calm	0	0	Fair	
Atlantic City, New Jersey	29.88	758.9	29.89	759.2	34	1.1	79	W	4	1.8	.....	5c	0	N	.....	0	0	Fair	
Augusta, Georgia	30.04	763.0	30.22	767.6	48	8.9	85	Calm	0	0	.....	5ck	Sm'e	SW	Calm	0	0	Smoky	
Baltimore, Maryland	29.89	759.2	29.94	760.5	35	1.7	90	Calm	0	0	.....	5ck	Fog	Calm	Calm	0	0	Foggy	
Barnegat, New Jersey	29.86	758.4	29.88	758.9	33	0.6	79	NW	10	4.5	.....	5c	0	NW	.....	0	0	Fair	
Bismarck, Dakota	28.39	721.1	30.25	768.3	6	—14.4	100	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.71	729.2	30.05	763.3	52	11.1	100	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Boise City, Idaho	26.99	685.5	29.95	760.7	45	7.2	76	S	4	1.8	.....	.....	10n	.....	Calm	0.29	7.4	Light rain	
Boston, Massachusetts	29.60	751.8	29.75	755.6	35.0	1.7	61	SW	12	5.4	.....	2cs	Haze	Calm	Calm	0	0	Clear	
Brackettville, Texas	29.03	737.3	30.07	763.8	53	11.7	93	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.30	744.2	30.44	773.2	— 4	—20.0	100	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Brownsville, Texas	30.12	765.0	30.19	766.8	55	12.8	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Buffalo, New York	29.02	737.1	29.73	755.1	31.5	— 0.3	79	SW	11	4.9	.....	8cs	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	47	8.3	15	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.41	747.0	29.71	754.6	31	— 0.6	74	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cairo, Illinois	29.83	757.7	30.23	767.8	50	10.0	86	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.26	641.6	30.06	763.5	48	8.9	29	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	30	— 1.1	47	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.44	697.0	30.01	762.2	34	1.1	69	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.06	763.5	30.07	763.8	51	10.6	86	W	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	50	10.0	29	SW	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.08	764.0	30.10	764.5	51	10.6	93	SW	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Cape May, New Jersey	29.89	759.2	29.92	760.0	34	1.1	90	SW	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
Castroville, Texas	29.39	746.5	30.10	764.5	55	12.8	93	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Charleston, South Carolina	30.18	766.6	30.25	768.3	55	12.8	68	W	8	3.6	.....	2c	0	Calm	.....	0	0	Fair	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	31	— 0.6	79	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.33	745.0	30.04	763.0	36	2.2	71	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.40	746.7	30.06	763.5	48	8.9	70	W	4	1.8	.....	9k	0	NW	.....	0	0	Clearing	
Cleveland, Ohio	29.19	741.4	29.93	760.2	37	2.8	71	S	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.34	719.8	30.06	763.5	41	5.0	91	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Columbus, Ohio	29.13	739.9	29.99	761.7	41	5.0	73	S	5	2.2	.....	10ck	Fog	Calm	Calm	0	0	Cloudy	
Corpus, Texas	28.20	716.3	29.93	760.2	38	3.3	80	Calm	0	0	.....	10k	0	S	.....	0	0	Cloudy	
Corsicana, Texas	29.72	754.9	30.20	767.1	54	12.2	93	SE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Davenport, Iowa	29.48	748.8	30.14	765.5	37	2.8	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.47	646.9	.....	.....	30	— 1.1	89	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	28.99	736.3	30.18	766.6	50	10.0	93	S	7	3.1	.....	2c	0	S	.....	0	0	Clear	
Denison, Texas	29.38	746.2	30.18	766.6	54	12.2	93	S	10	4.5	.....	0	Fog	.....	Calm	0	0	Foggy	
Denver, Colorado	24.96	634.0	30.18	766.6	33	0.6	79	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.33	745.0	30.24	768.1	37	2.8	64	N	8	3.6	.....	0	8s	.....	N	0	0	Cloudy	
Detroit, Michigan	29.15	740.4	29.83	757.7	31	— 0.6	89	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Dodge City, Kansas	27.54	623.3	29.92	760.0	35	1.7	90	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.43	747.5	30.16	766.1	36	2.2	80	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.67	753.2	30.31	769.9	12	—11.1	80	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.35	745.5	30.11	764.8	47	8.3	92	Calm	.....	.....	0	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Eastport, Maine	29.61	752.1	29.68	753.9	30	— 1.1	89	NW	3	1.3	.....	5c	5s	Calm	NW	0.15	3.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	58	14.4	100	E	.....	.....	1	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	26.12	663.4	.....	.....	56	13.3	38	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.11	739.4	29.84	757.9	37	2.8	71	SW	12	5.4	.....	2ck	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.30	744.2	29.98	761.5	23	— 5.0	73	NW	32	14.3	.....	0	5s	.....	NW	0	0	Fair	
Florence, Arizona	28.51	724.1	30.11	764.8	45	7.2	46	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.65	651.5	29.72	754.9	27	— 2.8	55	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.27	641.8	30.23	767.8	37	2.8	45	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.58	751.3	30.13	765.3	50	10.0	86	SE	4	1.8	.....	2c	0	NW	.....	0	0	Clear	
Fort Griffin, Texas	28.82	732.0	30.14	765.5	40	4.4	82	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Fort Keogh, Montana	.....	.....	.....	.....	18	— 7.8	.....	NE	4	1.8	.....	0	0	.....	.....	0.17	4.3	Clear	
Fort McKavett, Texas	27.89	708.4	29.83	757.7	53	11.7	86	SW	7	3.1	.....	5k	0	NE	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.89	733.8	30.02	762.5	44	6.7	84	S	3	1.3	.....	0	Fog	.....	S	0	0	Light fog	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.44	722.4	30.01	762.2	56	13.3	87	SW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Galveston, Texas	30.17	766.3	30.21	767.3	56	13.3	94	E	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Graham, Texas	29.00	736.6	30.07	763.8	50	10.0	93	S	6	2.7	.....	0	8s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.27	743.4	29.93	760.2	37	2.8	81	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.26	743.2	30.05	763.3	41	5.0	74	SW	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Indianola, Texas	30.18	766.6	30.20	767.1	55	12.8	100	SE	6	2.7	.....	0	2s	.....	SE	0	0	Foggy	
Jacksboro, Texas	28.96	735.6	30.10	764.5	50	10.0	36	S	4	1.8	.....	5cs	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.28	769.1	30.30	769.6	46	7.8	84	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.53	750.0	30.17	766.3	37	2.8	81	NW	4	1.8	.....	0	2s	.....	W	0	0	Clear	
Key West, Florida	30.16	766.1	30.20	767.1	67	19.4	95	NE	12	5.4	.....	5c	1s	W	Calm	0.02	0.5	Fair	
Kittyhawk North Carolina	29.97	761.2	29.99	761.7	48	8.9	93	W	18	8.0	.....	10cs	0	W	.....	0	0	Cloudy	
Knoxville, Tennessee	29.22	742.2	30.24	768.1	51	10.6	79	W	16	7.2	.....	.....	10ks	.....	NW	0	0	Cloudy	
La Crosse, Wisconsin	29.40	746.7	30.16	766.1	36	2.2	80	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	36	2.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.72	754.9	30.07	763.8	54	12.2	93	SE	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Leavenworth, Kansas	29.32	744.7	30.20	767.1	37	2.8	81	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.63	752.6	29.97	761.2	53.1	11.7	76	NE	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.54	750.3	30.10	764.5	48	8.9	78	S	5	2.2	.....	0	2s	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.33	745.0	30.01	762.2	52	11.1	53	W	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	29.07	738.4	30.08	764.0	38	3.3	63	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.32	744.7	30.08	764.0	13	—10.6	81	NW	28	12.5	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy	
Mason, Texas	28.49	723.6	30.26	768.6	55	12.8	81	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.93	760.2	30.26	768.6	52	11.1	93	SW	3	1.3	.....	0	Fog	.....	Calm	0	0	Foggy	
Milwaukee, Wisconsin	29.23	742.4	29.97	761.2	39	3.9	73	W	26	11.6	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.27	768.8	30.32	770.1	50	10.0	93	S	3	1.3	.....	10c	0	Calm	.....	0	0	Cloudy	
Montgomery, Alabama	30.06	763.5	30.30	769.6	49	9.4	93	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Morgantown, West Virginia	28.90	734.0	29.96	761.0	45	7.2	68	S	6	2.7	.....	5c	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	23.25	590.5	29.61	752.1	11	—11.7	100	NW	44	19.7	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.68	753.9	30.22	767.6	51	10.6	93	SW	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
New Haven, Connecticut	29.70	754.4	29.62	757.4	32	0.0	89	SW	1	0.4	.....	0	Haze	.....	Calm	0	0	Hazy	
New London, Connecticut	29.76	755.9	29.81	757.2	32	0.0	89	W	1	0.4	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
New Orleans, Louisiana	30.21	767.3	30.27	768.8	52	11.1	93	E	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	29.74	755.4	29.79	756.7	34	1.1	79	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.69	754.1	29.88	758.9	32	0.0	79	SW	7	3.1	.....	Haze	2s;hz	.....	Calm	0	0	Hazy	
Norfolk, Virginia	29.92	760.0	29.98	761.5	51	10.6	79	SW	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.31	693.7	29.98	761.5	37	2.8	71	NW	10	4.5	.....	10ck	0	W	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.68	753.9	29.72	754.9	39.2	4.0	91	S	6	2.7	.....	.....	10n	.....	.....	0.33	8.4	Light rain	
Omaha, Nebraska	29.08	738.6	30.22	767.6	37	2.8	81	N	8	3.6	.....	2ck	2s	W	Calm	0	0	Fair	
Oswego, New York	29.43	747.5	29.75	755.6	37	2.8	81	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Pembina, Dakota	29.44	747.8	30.42	772.6	—15	—26.1	100	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Philadelphia, Pa	29.86	758.4	29.91	759.7	37	2.8	81	SW	4	1.8	.....	0	2ks;fg	.....	W; Calm	0	0	Fair	
Phœnix, Arizona	28.84	732.5	30.68	779.3	47	8.3	55	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.89	454.4	30.10	764.5	18	— 7.8	Inap.	SW	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.02	610.1	29.79	756.7	44	6.7	52	S	6	2.7	.....	0	8s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.11	739.4	29.92	760.0	42	5.6	74	W	3	1.3	.....	5k	0	NW	.....	0	0	Fair	
Port Huron, Michigan	29.07	738.4	29.75	755.6	30	— 1.1	89	SW	16	7.2	.....	2ck	2ks	W	Calm	0	0	Fair	
Portland, Maine	29.65	753.1	29.70	754.4	32	0.0	89	Calm	0	0	.....	Haze	Haze	.....	.....	0.01	0.3	Hazy	
Portland, Oregon	29.77	756.1	29.87	758.7	40.5	4.7	87	S	10	4.5	.....	.....	10n	.....	.....	0.15	3.8	Light rain	
Prescott, Arizona	24.88	631.9	30.24	768.1	34	1.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.18	741.2	30.02	762.5	41	5.0	81	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.24	768.1	30.25	768.3	63	17.2	83	NE	9	4.0	.....	8k	0	NE	.....	0	0	Fair	
Red Bluff, California	29.54	750.3	29.91	759.7	45	7.2	92	S	2	0.9	.....	0	2s	.....	Calm	0.09	2.3	Clear	
Rio Grande City, Texas	29.96	761.0	30.18	766.6	60	15.6	94	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Threatening	
Rochester, New York	29.10	739.1	29.72	754.9	34	1.1	79	W	8	3.6	.....	5k	0	SW	.....	0	0	Fair	
Roseburg, Oregon	29.34	745.2	29.92	760.0	39.0	3.9	96	SW	1	0.4	.....	.....	10n	.....	Calm	0.16	4.1	Light rain	
Sacramento, California	29.86	758.4	29.95	760.7	48.1	8.9	83	SW	4	1.8	.....	.....	10s	.....	SW	0.36	9.1	Cloudy	
St. Louis, Missouri	29.57	751.1	30.16	766.1	44	6.7	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.29	769.4	30.31	769.9	42	5.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.39	746.5	30.28	769.1	20	— 6.7	78	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.56	749.2	29.89	759.2	51	10.6	53	SE	9	4.0	.....	.....	10ks	.....	W	0.05	0.5	Threatening	
San Antonio, Texas	29.46	748.3	30.05	763.3	57	13.9	94	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
San Diego, California	29.93	760.2	30.00	762.0	48.0	8.9	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.24	742.7	29.93	760.2	39	3.9	73	SW	17	7.6	.....	8k	0	NW	.....	0	0	Fair	
Sandy Hook, New Jersey	29.84	757.9	29.88	758.9	31	— 0.6	89	NW	11	4.9	.....	0	2s	.....	W	0	0	Fair	
San Francisco, California	29.92	760.0	29.99	761.7	49	9.4	78	NW	3	1.3	.....	0	Fog	.....	Calm	0.09	2.3	Fair	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	37	2.8	53	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.16	766.1	30.26	768.6	56	13.3	75	SW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.02	762.5	30.25	768.3	57	13.9	100	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico	24.42	620.3	30.79	782.0	35	1.7	70	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.15	765.8	30.19	766.8	50	10.0	86	W	7	3.1	.....	8cs	0	NW	.....	0	0	Cloudy	
Springfield, Massachusetts	29.62	752.3	29.76	755.9	35	1.7	70	S	3	1.3	.....	.....	10ks	.....	S	0	0	Cloudy	
Stockton, Texas	27.02	686.3	30.02	762.5	35	1.7	90	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.72	754.9	29.77	756.1	33	0.6	79	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.20	741.7	29.89	758.2	40	4.4	82	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	43	6.1	58	S	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Tybee Island, Georgia	30.24	768.1	30.27	768.8	51	10.6	86	W	5	2.2	.....	5cs	Haze	SW	Calm	0	0	Fair	
Umatilla, Oregon	29.47	748.5	29.98	761.5	31.0	— 0.6	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	46	7.8	85	SE	.....	.....	4	.....	10s	.....	S	0.47	11.9	Cloudy	
Uvalde, Texas	29.28	743.7	30.12	765.0	55	12.8	87	SE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.03	762.8	30.33	770.4	53	11.7	86	S	5	2.2	.....	Haze	Haze	Calm	.....	0	0	Hazy	
Virginia City, Montana	24.07	611.4	29.55	750.6	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0.08	2.0	Clear	
Visalia, California	29.63	752.6	30.00	762.0	54	12.2	87	E	2	0.9	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Washington, D. C	29.83	757.7	29.95	760.7	32	0.0	89	Calm	0	0	.....	2ck	Fog	NW	NW	0	0	Foggy	
Wickenburg, Arizona	.....	.....	.....	.....	40	4.4	56	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.05	763.3	30.13	765.3	52	11.1	79	SW	6	2.7	.....	5c	5s;sm	Calm	Calm	0	0	Cloudy	
Winnemucca, Nevada	25.46	646.7	29.82	757.4	37	2.8	90	NE	3	1.3	.....	.....	10ks	.....	Calm	0.09	2.3	Cloudy	
Wood's Holl, Mass	29.73	755.1	29.77	756.1	35	1.7	90	W	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	29.04	737.6	30.41	772.4	29	— 1.7	77	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.78	756.4	29.95	760.7	50	10.0	39	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayettville, Ark	28.60	726.4	30.01	762.2	53	11.7	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.12	765.0	30.17	766.3	72	22.2	85	Calm	0	0	.....	6c	4ks	SW	E	0.19	4.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.29	769.4	30.20	767.1	75	23.9	86	N	2	0.9	.....	5c	2s	SE	Calm	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.97	761.2	30.05	763.3	79	26.1	.....	E	11.2	5.0	.....	.....	.....	.....	.....	0.04	1.0	Fair	F. M Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	80	26.7	82	NE	.....	.....	3	.....	8ks	NE	.....	0.200	5.08	Fair	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.31	769.9	30.36	771.1	—29.5	—34.2	.....	NW	3	1.3	.....	0	2s	.....	NW	0	0	Fair	J. Fortescue, W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKayett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.92	760.0	47	8.3	45	7.2	84	W	8	3.6	.....	.....	2	.....	Calm	0.17	4.3	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.38	771.6	52	11.1	52	11.1	86	NE	1	0.4	.....	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.10	739.1	54	12.2	23	— 5.0	86	SW	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.10‡	764.5‡	.....	.....	36.5	2.5	71	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Alaska, N. 9° 55′, W. 84° 45′.....	30.02	762.5	79	26.1	77	25.0	86	N	.....	.....	1	.....	2	.....	S	0	0	.....	.....	D. clouds.....	
Alliance, Smyrna, Turkey.....	30.11‡	764.8‡	.....	.....	50	10.0	58	W	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Ashuelot, Saigon, Cochin China....	30.00	762.0	80	26.7	79	26.1	82	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	....	Clear.....	
Canonicus, New Orleans, La.....	30.21	767.3	41	5.0	50	10.0	100	NE	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.....	29.82	757.4	31	— 0.6	31	— 0.6	100	SW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Hazy	
Constitution, Portsmouth, England....	29.96‡	761.0‡	.....	.....	35	1.7	100	NE	14	6.3	.....	.....	10	.....	NE	.....	.....	.....	.....	Misty.....	
Despatch, Constantinople, Turkey	30.23‡	767.8‡	.....	.....	46	7.8	69	NE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Fair.....	
Essex, S. 46° 31′, W. 63° 43′.....	29.67	753.6	66	18.9	62	16.7	94	SSE	.....	.....	1	.....	10	.....	Calm	.....	.....	Long	SE	Foggy	
Franklin, Norfolk, Va.....	30.08	764.0	70	21.1	51	10.6	72	WSW	12	5.4	.....	.....	10	.....	wsw	0	0	.....	.....	Overcast.....	
Gettysburg, Genoa, Italy	29.93‡	760.2‡	.....	.....	49	9.4	85	NNE	.....	.....	4	.....	10	.....	.....	0.7	18.	.....	.....	Overcast.....	
Hartford, Montevideo, Uruguay...	29.71‡	754.6‡	76	24.4	75	23.9	86	NNW	9	4.0	.....	.....	10	.....	.....	0	0	Smooth	.....	Misty.....	
Lackawana, Panama.....*	29.71‡	754.6‡	.....	.....	78	25.6	91	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....	29.90†	759.4†	.....	.....	38	3.3	90	S	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Monocacy, Nagasaki, Japan .....*	30.59‡	774.7‡	.....	.....	34	1.1	62	NE	.....	.....	0–1	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Monongehela, Yokohama, Japan ....*	30.06‡	763.5‡	.....	.....	32	0.0	100	NW	.....	.....	0–1	.....	1	.....	NW	0	0	.....	.....	Blue sky.....	
New Hampshire, Port Royal, S. C.....	30.34†	770.6†	.....	.....	52	11.1	86	WSW	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	70	21.1	90	Var.	.....	.....	1	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.50	774.7	29	— 6.7	16	— 8.9	100	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	32	0.0	90	WNW	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Pensacola, Panama.....	29.93‡	760.2‡	.....	.....	77	25.0	95	WNW	5	2.2	.....	.....	2	.....	.....	0	0	Smooth	NW	Fair.....	
Powhatan, Norfolk, Va.....	29.99	761.7	52	11.1	52	11.1	79	WSW	4.0	1.8	.....	.....	10	.....	W	0	0	.....	.....	Overcast	
Quinnebaug, N. 36° 21′, W. 33° 33′.....	30.47‡	773.9‡	.....	.....	63	17.2	67	WSW	.....	.....	3	.....	10	.....	wsw	.....	.....	Smooth	wsw	Cloudy.....	
Ranger, Yokohama, Japan.....*	30.25‡	768.3‡	.....	.....	43	6.1	83	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 35° 53′, W. 30° 58′.....	30.48‡	774.2‡	.....	.....	62	16.7	77	WNW	.....	.....	2	.....	2	.....	.....	0.5	13.	Long	N	Fair	
Rio Bravo, Brownsville, Texas.....	30.10	764.5	60	15.6	55	12.8	100	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	Foggy	
Santee, Annapolis, Md..	29.93‡	760.2‡	.....	.....	31	— 0.6	.....	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
St. Louis, League Island, Pa.....	29.86	758.4	53	11.7	29	— 1.7	.....	Calm	0	0	.....	.....	2	.....	NW	0	0	.....	.....	Fair.....	
Supply, N. 36° 21′, W. 16° 39′.....	30.04‡	763.0‡	.....	.....	60	15.6	76	N	.....	.....	5–6	.....	5	.....	NNW	.....	.....	Rough	N	Fair	
Trenton Villafranca, France *...	29.84‡	757.9‡	.....	.....	60	15.6	60	NW	.....	.....	2–5	.....	10	.....	NW	0.3	8.	....	.....	Overcast.....	
Tuscarora, N. 7° 35′, W. 81° 22′.....	29.87‡	758.7‡	.....	.....	82	27.8	79	SW	.....	.....	1–2	.....	5?	.....	Calm	0	0	Smooth	.....	Clear ?.....	
Wabash, Boston, Mass.....	29.81‡	757.2‡	.....	.....	33	0.6	80	WSW	10	4.5	.....	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, N. 38° 30′, E. 13° 58′.....	30.11	764.8	67	19.4	60	15.6	100	SE	.....	.....	3–5	.....	8	.....	SE	.....	.....	Mod'ate	SE	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 33° 28′, W. 120° 5′		30.04†	763.0†	60	15.6	94	WNW			4		10		SE		Rough	WNW	Foggy	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		29.84	757.9				Calm			0		10		NE				Fine	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Myer, N. 34° 40′, W. 137° 17′		30.20*	767.1*	57	13.9	81	W			6		ks		W		Rough cross	NW	Squally	J. A. Thompson, 2d Off
S. S. Gaelic, N. 42° 56′, W. 141° 50′		30.27†	768.8†	46	7.8	??	E			5		Haze		Var.	Blank	Confused		Gloomy	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 48° 56′ W. 6° 35′		30.06	763.5	41.0	5.0	88	NE			3		10		NE		Smooth	NE	Cloudy	L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 15′, W. 25° 15′		29.61*	752.1*	50	10.0	93	SSW			8		9		SSW	Blank	Mod'ate	SSW	Cloudy	Captain Sargent.
S. S. Ohio, N. 42° 38′, W. 58° 28′		29.76	755.9	43	6.1	92	SSW			4		10		SW	Blank	Smooth	WNW	Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 48° 34′, W. 42° 00′		29.81*	757.2*	31	—0.6		W			8		10s		W	Blank	High	W	Overcast	Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, N. 39° 53′, W. 72° 38′		29.84	757.9	43	6.1	83	W	9	4.0			2k		SE	0	Rough	SW	Clear	Capt. James Jorgense n

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 26, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.15	765.9	59.9	15.5	82	N	.....	.....	3	.....	4	.....	.....	0.157	4.0	Cloudy	
Nemours	.....	.....	29.92	759 9	63.1	17.3	56	WNW	.....	.....	3	.....	5	.....	.....	0.236	6.0	Cloudy	Kesxuche.
Algiers	.....	.....	29.87	758.8	65.5	18.6	52	SE	.....	.....	1	.....	8	.....	.....	0.177	4.5	Very cloudy	Tourillere.
La Calle	.....	.....	30.01	762.2	65.8	18.5	60	SSE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.03	762.8	63.1	17.3	52	SW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.12	765.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.87	758.6	54.5	12.5	45	S	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.10	764.4	56.8	13.8	45	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	29.88	758.9	50.7	10.4	97	SSE	.....	.....	4	.....	10	.....	.....	0	0	Covered	Brugniaux.
Laghouat	.....	.....	30.00	761.9	54.3	12.4	58	WNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.02	762.6	60.8	16.0	73	SE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.61	752.2	30.19	766.9	34.9	1.6	94	.....	.....	.....	.....	.....	10	.....	.....	0	0	Foggy	Prof. Ivan Stozir.
Oracow, I. R. Observatory	29.46	748.3	30.28	769.1	27.3	— 2.6	87	E	.....	.....	3	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.31	744.5	30.24	768.1	32.0	0.0	81	Calm	.....	.....	0	.....	2cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.90	734.0	30.20	767.1	36.5	2.5	85	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.78	731.0	30.30	769.5	29.8	— 1.2	88	WNW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.67	728.1	30.08	763.9	32.5	0.3	92	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.26	743.3	30.32	770.0	28.6	— 1.9	94	SE	.....	.....	1	.....	5	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.99	761.8	30.02	762.6	56.7	13.7	56	ENE	.....	.....	1	.....	9	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.80	757.0	30.29	769.4	36.7	2.6	96	N	.....	.....	2	.....	1	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.96	760.9	30.25	768.4	36.9	2.4	82	S	.....	.....	1	.....	3	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.04	763.1	30.15	765.7	63.6	12.0	84	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	P. Busin.
Vienna	29.43	747.6	30.18	766.6	33.1	0.6	85	S	.....	.....	3	.....	3	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 353.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.09	764.3	30.19	766.8	32.7	0.4	.....	S	7	3.1	.....	.....	2	.....	.....	0	0	Misty.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William McNeil.
Armagh, Observatory	.....	.....	30.24	768.1	31.2	— 0.4	.....	SSW	2	0.9	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.25	768.3	32.6	0 3	.....	E	10	4.5	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.25	768.3	29.2	— 1.6	.....	E	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.98	761.5	78.0	25.6	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.22	767.6	35.0	1.7	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [O.
Cardington	.....	.....	30.29	769.4	34.0	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.06	763.5	30.20	767.1	33.2	0.6	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Daly, R. E.
Dartmoor	28.61	726.7	30.15	765.8	31.0	— 0.6	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	30.20	767.1	30.25	768.3	35	1.7	.....	SSW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.14	765.5	30.17	766.3	37	2.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy.....	J. Costello.
Falmouth, Observatory	29.94	760.5	30.18	766.6	36.2	2.3	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.46	695.5	29.78	756.4	79.3	26.3	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	Pvt. S. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.68	753.9	29.92	760.0	87	30.6	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.15	765.8	36	2.2	.....	S	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.78	756.4	29.84	757.9	54.5	12.5	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds..	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.03	762.8	30.23	767.8	29.0	— 1.7	.....	ESE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	30.19	766.8	30.20	767.1	35	1.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast....	G. T. Watson.
Greenwich, Royal Obs'y	30.02	762.5	30.20	767.1	33.4	0.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	The Staff, or C. B. Airy
Guernsey	29.88	758.9	30.11	764.8	40	4.4	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	Dr. S. E. Hoskins, F.R.S.
Helston	30.08	764.0	30.21	767.3	33	0.6	.....	N	.....	.....	2	.....	10k	.....	.....	0	0	Overcast.....	M. P. Moyle.
Holyhead	30.17	766.3	30.23	767.8	34	1.1	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.83	757.7	30.14	765.5	38.2	3.4	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy.....	J. Fisher.
Kew, Observatory	30.16	766.1	30.20	767.1	34.5	1.4	.....	NNE	13	5.8	.....	.....	10	.....	.....	Blank	Blank	Overcast.....	The Staff.
Leicester, Museum	29.97	761.2	30.24	768.1	33.9	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	60	15.6	.....	SE	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	30.03	762.8	30.13	765.3	38	3.3	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.18	766.6	71.0	21.7	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.06	763.5	30.25	768.3	34.2	1.2	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.69	754.1	30.24	768.1	32.9	0.5	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast..	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.24	768.1	33	0.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	30.09	764.3	30.17	766.3	35.6	2.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty.....	John Merrifield.
Roche's Point	30.15	765.8	30.20	767.1	35	1.7	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Hazy.....	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.13	765.3	36.1	2.3	.....	S	8	3.6	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.23	767.8	42.0	5.6	.....	NE	.....	.....	2	.....	8	.....	.....	Blank	Blank	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	29.98	761.5	30.28	769.1	33.0	0.6	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.23	767.8	30.26	768.6	31.4	— 0.3	86	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M.
Stonyhurst Observatory	29.86	758.4	30.26	768.6	28.8	— 1.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Strathfield Turgiss	29.98	761.5	30.21	767.3	35.3	1.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. H. Griffith, F.M.S
Thurso	30.04	763.0	30.10	764.5	38	3.3	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	30.19	766.8	38	3.3	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	30.15	765.8	30.18	766.6	38.6	3.7	.....	SE	20	8.9	.....	.....	2	.....	.....	.....	.....	D. clouds.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	30.02	762.5	56	13.3	88	S	.....	.....	2	.....	0	.....	.....	0.02	0.5	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.25	768.3	34.0	1.1	.....	W	.....	.....	1	8cs	.....	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.72	754.9	29.80	759.6	80.0	26.7	78	S	8.0	3.6	.....	.....	10	.....	.....	.....	.....	Showery....	C. Meldrum.
Melbourne, Observatory	29.99	761.7	30.08	764.0	59.7	15.4	78	S	9	4.0	.....	.....	0	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.07	763 8	45	7.2	.....	SSW	.....	.....	7	.....	10	.....	.....	0.1	3.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.03	762.8	41	5.0	.....	SW	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.21	665.7	29.93	760.2	62.2	16.8	81	NE	.....	.....	2	2c;s	.....	.....	.....	0	0	Fair	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.17	766.3	30.22	767.5	32.0	0.0	96	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	.....
Fanöe	30.17	766.2	30.19	766.7	30.7	— 0.7	96	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.02	737.1	29.06	738.2	29.7	— 1.3	55	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.87	758.6	29.90	759.5	39.7	4.3	84	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	30.06	763.5	30.23	767.8	25.9	— 3.4	91	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.56	750.8	30.11	764.8	35.2	1.8	96	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.00	762.0	30.12	765.0	37.0	2.8	86	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.91	759.7	29.99	761.7	56.1	13.4	62	SE	.....	.....	2	.....	8	.....	SE	0.492	12.5	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	29.50	749.3	30.09	764.3	37.2	2.9	92	NNW	.....	.....	1	.....	10	.....	.....	0.008	0.2	Covered	C. Saillard, Director.
Beauvais, Normal School	29.84	757.8	30.14	765.5	36.1	2.3	87	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frer Eugene Marie, Dir.
Besançon, Normal School	29.13	739.9	30.09	764.2	43.2	6.2	83	ENE	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	29.17	741.0	30.09	764.2	45.5	7.5	83	SE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.81	757.1	30.05	763.2	40.6	4.8	80	SE	.....	.....	2	.....	4	.....	SE	0.020	0.50	.....	M. de Rermaur, Director
Carcassonne, Normal School	29.58	751.2	30.00	761.9	46.0	7.8	86	NNE	.....	.....	2	.....	5	W	W	1.378	35.0	Cloudy	September, Director.
Caen, Normal School	30.00	762.1	30.08	764.0	36.3	2.4	89	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.45	747.9	30.04	763.0	34.2	1.2	88	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	756.0	30.10	764.5	35.4	1.9	85	NE	.....	.....	1	.....	8	.....	.....	0.508	12.9	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.60	726.5	29.98	761.5	45.1	7.3	97	N	.....	.....	1	.....	10	.....	.....	0.362	9.2	Covered	Alluard, Director.
Commercy, Normal School	29.21	741.9	30.12	765.0	33.6	0.9	96	WSW	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Dr. Coulet, Director.
Commune de Gréasque*	28.90	734.1	30.04	763.1	49.6	9.8	82	SE	.....	.....	4	.....	10	.....	SE	0.12	3.	Covered	M. Kina, Director.
Grenoble, Normal School	29.26	743.3	30.04	763.1	48.6	9.2	76	NE	.....	.....	1	5c	.....	.....	.....	0	0	Cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.85	758.2	30.08	764.0	32 0	0.0	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.77	756.2	30.10	764.4	36.0	2.2	96	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.13	739.8	30.07	763.8	39.7	4.3	97	NW	.....	.....	2	.....	10	.....	.....	0	0	Foggy	Baudry, Director.
Lorient, Naval Observatory	30.03	762.7	30.13	765.2	30.2	— 1.0	96	N	.....	.....	2	.....	.....	.....	N	0.220	5.6	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.97	735.8	30.05	763.2	32.5	0.3	96	NE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Barbier, Director.
Nismes, Normal School	29.79	756.6	29.99	761.8	54.7	12.6	90	N	.....	.....	4	.....	10	.....	N	0.83	21.	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.05	636.3	.....	.....	33.4	0.8	100	E	.....	.....	10	.....	10	.....	.....	0.181	4.6	Rain and fog	Alluard, Director.
Rochefort, Naval Obs'y	30.02	762.6	30.06	763.4	38.8	3.8	97	E	.....	.....	1	.....	10	E	E	0.31	8.	Covered	Lt. Decante, Director.
Rouen, Normal School	30.03	762.7	30.11	764.9	37.9	3.3	82	NNE	.....	.....	1a	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.99	761.7	30.02	762.5	36.3	2.4	74	SSW	.....	.....	1	.....	10	SSW	SSW	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.92	760.0	30.09	764.2	35.2	1.8	96	N	.....	.....	1	.....	10	.....	.....	0.063	1.6	Covered	E. Renou, Director.
Tarbes, Normal School	28.89	733.8	29.98	761.4	48.2	9	61	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.30	744.1	30.02	762.5	48.2	9	85	NW	.....	.....	1	.....	10	.....	.....	0.08	2.	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.	.....	L'Abbé Marchès.
Lyons, Observatory	.....	.....	30.02	762.4	46.6	8.1	81	E	.....	.....	1	.....	8	.....	.....	0.012	0.3	Misty	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cavé.
Nice	24.83	630.6	30.14	765.6	33.8	1.0	88	E	7.4	3.3	.....	.....	10	.....	.....	0.244	6.2	.....	.....
Paris, Montsouris Obs'y	.....	.....	30.07	763.7	53.6	12.0	82	E	.....	.....	1	.....	10	.....	.....	0.524	13.3	Raining	Dr. A. Niepce, Jr.
Perpignan	29.84	758.0	.....	.....	33.8	1.0	100	N	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Marié Davy, Director
Pic du Midi, (Summit,) H. P.	29.88	759.0	29.99	761.7	50.5	10.3	73	NE	3.8	1.7	.....	.....	8	.....	SE	0.882	22.4	.....	Dr. Vines.
Pic du Midi, (Plantade,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Toulouse, Observatory	22.30	566.4	.....	.....	28.0	— 2.2	.....	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	Gen'l de Nansouty.
Tours	29.30	744.1	30.02	762.5	40.8	4.9	100	NNW	.....	.....	2	.....	10	.....	.....	0.091	2.3	Rainy	M. Mercadier Julier.
Versailles Observatory	29.85	758.2	30.05	763.2	34.9	1.6	94	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	.....	.....	30.08	764.1	35.2	1.8	.....	NE	.....	.....	1	.....	10	.....	.....	0.257	6.54	Light fog	Dr. A. Périgny, Director
.....	30.39	771.9	30.41	772.5	39.2	4.0	95	ENE	23.3	10.4	.....	.....	10n	.....	.....	0.016	0.4	Raining	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Greasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.02	762.4	32.0	0.0	90	N			2		10			0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.82	757.5	30.00	762.1	33.8	1.0	90	E			1		10			0	0		Prof. Arndt.
Breslau	29.67	753.7	30.21	767.3	34.9	1.6	91	SE			2		8			0.013	0.34		Royal University Obs'y
Carlsruhe	29.64	752.9	30.09	764.2	34.3	1.3	87	NE			1		10	E		0	0		Albert Senz.
Cassel	29.47	748.5	30.08	764.0	34.2	1.2	88	E			1		10	NE		0	0		Dr. H. Möhl.
Crefeld	29.95	760.7	30.11	764.8	37.9	3.3	79	NE			1		9			0	0		Director Lose.
Emden					32.5	0.3	92	N			0		10			0	0		Prof. Prestel.
Frankfort on the Main	29.74	755.4	30.12	765.1	33.8	1.0		NNE			1		2			0	0		Physical Society.
Friedrichshafen	28.58	725.8	30.07	763.7	36.3	2.4	73	NE			2		0			0	0		M. Wilhelm.
Hamburg	30.10	764.5	30.17	766.4	33.1	0.6	85	SE			3		10			0	0	Foggy	Captain F. Hegemann
Kiel	30.17	766.4	30.19	766 8	32.5	0.3	91	E			1		10			0.008	0.20		Prof. G. Karsten.
Königsberg, (Prussia)	30.30	769.6	30.39	771.9	22.1	— 5.5	81	SE			4		6			0	0		Prof. E Luther.
Köslin			30.23	767.8	29.7	— 1.3		SE			2		4			0	0		H. Müller.
Leipsic, Observatory	29.71	754.6	30.15	765.8	33.1	0.6	98	NE			1		10			0	0	Foggy	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.38	771.7	30.43	772.9	19.8	— 6.8	81	SE			3		7cs					Squally	Skalweit.
Neufahrwasser	30.38	771.7	30.40	772.1	27.1	— 2.7	85	SE			2		10			0	0		A. Lothes.
Posen	29.97	761.2	30.28	769.0	29.5	— 1.4	89	E			6		10			0.217	5.5	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.54	750.4	30.12	765.1	33.1	0.6	94	NE			1		10			0	0	Hazy	Imp. University Observatory.
Stuttgart	29.10	739.0	30.08	764.1	32.0	0.0	96	E			1		10			0	0	Foggy	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.54	725.0	30.12	765.1	31.8	— 0.1	89	W	2	1			10			0	0	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.17	766.2	30.19	766.8	33.1	0.6	89	NE			2		5s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.77	756.2	30.17	766.4	52.0	11.1		NE			4.0							½ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.94	760.5	29.99	761.8	73.6	23.1	54	W	9.0	4.0			1			0	0	D. clouds	
Deesa	29.51	749.5	30.00	761.9	74.2	23.4	25	W					0			0	0	Blue sky	
Bombay	29.92	760.1	29.96	761.0	79.8	26.6	64	NNW	14.0	6.3			0			0	0	Blue sky	
Poonah	27.95	709.9	29.95	760.8	80.1	26.7		ENE					0			0	0	Blue sky	
Lahore	29.24	742.7	30.01	762.3	62.6	17.0	33	Calm	0.8	0.4			5			0	0	Cloudy	
Belgaum	27.41	696.2	29.92	760.1	81.9	27.7	41	Calm	0	0			4			0	0	D. clouds	
Roorkee	29.06	738 2	30.00	761.9	62.8	17.1	42	Calm	1.8	0.8			5			0	0	D. clouds	
Agra	29.43	747.6	30.02	762.5	66.8	19.3	30	W					0			0	0		
Nagpur	28.93	734.8	29.97	761.3	81.6	27.6	37	Calm	1.9	0.8			0			0	0	Blue sky	
Lucknow	29.59	751.5	29.97	761.3	66.4	19.1	36	Calm	0.1	0.04			0			0	0	Blue sky	
Allahabad	29.72	754.8	30.04	763.0	64.7	18.2	43	Calm	0.6	0.3			0			0	0	Blue sky	
Patna	29.83	757.6	30.02	762.4	67.4	19.7	46	Calm	0.2	0.1			0			0	0	Blue sky	
Hazaribagh	27.96	710.3	30.04	763.0	64.8	18.2	19	NW	4.7	2.1			0			0	0	Blue sky	
Cuttack	29.93	760.1	30.01	762 3	71.9	22.2	46	NE	0.8	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	30.02	762.4	30.04	763.0	64.6	18.1	60	Calm	0	0			0			0	0	Blue sky	
Goalpara					67.5	19.7	40	W	1.2	0.5			0			0	0	Blue sky	
Chittagong	29.95	760.7	30.05	763.2	66.8	19.3	88	W	6.2	2.8			0			0	0	Blue sky	
Sibsagar	29.69	754.2	30.05	763.2	61.9	16.6	83	Calm	0.7	0.3			0			0	0	Misty	
Jubbulpore	28.59	726.1	29.97	761.2	76.3	24.6	29	NE	1.7	0.8			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,610 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.71	754.7	30.13	765.4	53.4	11.9	57	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.02	762.6	30.14	765.5	48.4	9.1	93	NE	6.3	2.8	.....	.....	10	E	.....	0.016	0.4	.....	Prof. Dott. Lorenzoni
Milan	29.59	751.5	30.13	765.3	46.0	7.8	83	WNW	.....	.....	1	.....	7	SE	.....	0 150	3.8	.....	Prof. Schiaparelli.
Moncalieri	29.24	742.6	30.18	766.6	43.2	6.2	98	N	2.5	1.1	.....	.....	10	.....	.....	0.508	12.9	.....	Prof. P. F. Denza.
Mondovi	28.20	716.2	30.17	766.2	41.0	5.0	95	WNW	.....	.....	2	.....	10	.....	.....	1.158	29.4	.....	Prof. D. C. Bruno.
Genoa	29.90	759.4	30.10	764.4	50.4	10.2	70	N	2.5	1.1	.....	.....	6	NE	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.82	757.3	30.08	764.0	55.0	12.8	55	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.93	760.2	30.02	762.4	57.6	14.2	48	ENE	11.9	5.3	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.07	763.8	30.12	765.1	45.3	7.4	97	NE	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.87	758 7	30.05	763.2	56.5	13.6	60	N	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. P S. Ferrari.
Lecce	29.87	758.6	30.13	765.2	56.8	13.8	70	SE	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.76	756.0	29.96	760.9	57.7	14.3	79	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	740.8	30.08	763.9	55.0	12.8	70	NW	2.5	1.1	.....	.....	9	.....	.....	0.079	2.0	.....	Prof. D. Conti.
Palermo	29.76	756.0	30.02	762.5	56.1	13.4	78	E	4.9	2.2	.....	.....	5	.....	.....	0.024	0.6	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.2	30.01	762.2	57.2	14.0	85	SSW	8.7	3.9	.....	.....	9	NNE	.....	0.472	12.0	.....	Prof. V. Giuliano.
Sub-Series. Naples, S. R.	29.52	749.8	30.08	763.9	60.6	15.9	58	NE	2.5	1.1	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.55	776 0	30.57	776.5	32.2	0.1	72	N	7.7	3 4	.....	.....	0	.....	.....	0	0	Clear	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.29	769.3	30.50	774.7	38.0	3.3	50	NE	4.6	2.1	.....	.....	9c	.....	.....	0.120	3.05	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.28	769.1	30.35	770.9	31.1	— 0.5	73	NE	5.8	2.6	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.7	30.31	769.8	42.4	5.8	54	NW	.....	.....	1	0	1s	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.47	621.6	30.16	766.1	49.5	9.7	84	SW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.08	586.2	30.32	770.1	40.5	4.7	80	Calm	0	0	.....	0	0	.....	.....	0.23	5.8	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	43.0	6.1	68	Calm	.....	.....	0	3s	.....	SW	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.05	763.3	30.06	763 6	69.1	20.6	85	ESE	.....	.....	1	0	9	.....	SE	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.21	614.9	30.28	769.0	41.0	5.0	53	ESE	.....	.....	1	.....	10	.....	ESE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.08	764.1	30.11	764.8	73.4	23.0	83	Calm	.....	.....	0	.....	8sk	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	22.51	571.8	.....	.....	48.2	9	57	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	J. A. y Bonilla, M. E.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.5	41.0	5.0	79	ENE	17.9	8.0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.7	30.09	764.3	70.9	21.6	69	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.99	761 9	30.12	765.2	70.5	21.4	.....	Calm	.....	.....	0	8k	2n	.....	.....	0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,589.3 m., or 5,148.5 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.17	766.4	30.17	766.4	33.6	0.9	.....	NNE	.....	.....	.....	.....	.....	.....	.....	0.063	1.6	.....	
Groningen	30.11	764.8	30.17	766.2	32.2	0.1	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.17	766.2	30.17	766.2	32.0	0.0	.....	NNE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.16	766.0	30.16	766.0	33.8	1.0	99	NNE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.13	765.4	30.18	766.6	32.5	0.3	93	NE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.21	767.3	30.26	768.7	28.0	— 2.2	71	SSE	6.5	2.9	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.97	761.3	30.01	762.3	33.8	— 1.0	81	SW	34	15	.....	.....	10	.....	.....	.....	.....	Light rain	
Christiania	30.17	766.4	30.34	770.5	18.1	— 7.7	100	ENE	7	3	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.66	753.3	29.70	754.4	26.2	— 3.2	72	WSW	20	9	.....	.....	9	.....	.....	0.063	1.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.17	766.3	30.36	771.2	57.9	14.4	93	W	8.7	3.9	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.90	734.1	29.95	760.7	50.7	10.4	65	N	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.18	766.5	30.26	768.7	64.9	18.3	52	SW	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.63	752.7	30.00	762.0	51.8	11.0	66	NNW	22.4	10.0	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.33	770.3	30.40	772.1	61.9	16.6	77	WNW	11.2	5.0	.....	.....	3	.....	.....	0.020	0.5	.....	

NOTE.—The originals give the wind-velocity in kilometers per hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinta, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.87	758.6	82.2	27.9	.....	W	.....	.....	2	.....	2	.....	W	3	W	Blue sky	A. J. de Mattos, Com' d't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa. Porto de S. Jose de Bissao, Senegambia	.....	.....	29.89	759.2	79.5	26.4	.....	ENE	.....	.....	2	.....	4	.....	ENE	1	ENE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, Port Mossamedes, Lower Guinea	.....	.....	29.80	757.0	77.0	25.0	.....	SW	.....	.....	3	.....	2	.....	.....	3	SW	Blue sky	F. Texeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.20	767.0	57.6	14.2	.....	N	.....	.....	3	.....	3	.....	N	1	N	D. clouds	M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.87	758.8	30.32	770.2	27.7	— 2.4	83	ENE	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.15	765.8	30.61	777.4	20.7	— 6.3	74	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	30.43	772.8	30.69	779.6	17.1	— 8.3	85	SE	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.71	780.8	30.72	780.4	18.0	— 7.8	89	S	11	5	.....	.....	10n;s	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.93	760.2	30.65	778.5	2.8	—16.2	100	NE	2	1	.....	.....	2c;cs	.....	.....	.....	.....	Misty	Physical Cabinet.
Nikolaiev	30.46	773.6	30.53	775.4	11.5	—11.4	75	NNE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.23	767.7	30.24	768.2	25.5	— 3.6	98	N	7	3	.....	.....	10	.....	.....	.....	.....	Snowing	Lagorio.
Moscow	30.31	769.9	30.93	785.7	8.6	13.0	72	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.28	769.1	30.50	774.8	10.6	—11.9	67	E	9	4	.....	.....	1s	.....	.....	.....	.....	.....	MeteorologicalObs.
Archangel	30.66	778.7	30.68	779.2	4.6	—15.2	74	ESE	9	4	.....	.....	2ks	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.73	729.7	30.20	767.1	39.0	3.9	85	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.51	774.9	30.43	772.8	11.3	—11.5	61	NE	9	4	.....	.....	9s	.....	.....	.....	.....	.....	Capt. Wisganow.
Zrotkowo*	30.23	767 7	30.76	781.2	7.3	—13.7	79	N	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.53	775.4	30.83	783.1	8.1	—13.3	82	N	2	1	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Ekaterinburg	29.67	753.5	30.76	781.3	— 2.9	—19.4	80	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.90	759.4	30.15	765.7	27.3	— 2.6	62	N	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	
Tashkend	28.37	720.6	30.14	765.6	38.1	3.4	67	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.76	755.8	30.34	770.7	3.2	—16.0	81	NE	0	0	.....	.....	6	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.34	770.5	30.69	779.5	—33.9	—36.2	77	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.43	773.0	30.58	776.6	17.6	— 8.0	71	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.68	753.9	29.77	756.1	—17.0	—27.2	.....	Calm	0	0	.....	.....	10s	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.79	756.7	29.90	759 5	53.2	11.8	84	'E	2.6	1.17	.....	.....	10	.....	.....	1.351	34.33	Raining	Antonio Rave, Director
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.5	49.3	9.6	78	NE	0.5	0.24	.....	.....	10	.....	.....	0.177	4.5	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.99	685.5	.....	.....	37.4	3.0	91	NE	9.0	4.03	.....	.....	9	.....	.....	0.020	0.5	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.64	702.0	.....	.....	47.7	8.7	74	NE	9.7	4.34	.....	.....	9	.....	.....	Inap.	Inap.	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.67	753.7	29.83	757.6	53.6	12.0	87	ENE	0.4	0.17	.....	5	5	NNE	.....	1.167	29.65	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.11	739.5	30.03	762.8	46.2	7.9	74	N	18.6	8.3	.....	.....	7	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	30.09	764 3	30.16	766.0	72.2	22.3	89	ENE	7.4	3.3	.....	0	4k	.....	.....	0.087	2.2	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.8	29.93	760.2	81.0	27.2	83	NNE	3.4	1.5	.....	.....	1s	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.82	757.4	29.92	759.9	54.0	12.2	84	NNW	13.1	5.8	.....	0	4	.....	N	0.014	0.4	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	78.4	25.8	81	E	7.2	3.22	.....	2k	5k	E	E	0	0	Cloudy	Leonardo de Tejeda, C

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenhe	Centigrad	Per cent.	From—	Miles per hour	Meters per second.	0—10.	0—10.		Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	30.22	767.6	30.26	768.6	23.4	— 4.8	.....	S	.....	.....	6	.....	10	.....	.....	0.079	2.0	Snowing.....	
Umea	30.29	769.3	30.34	770.6	20.1	— 6.6	100	SW	.....	.....	8	.....	10	.....	.....	0	0	.....	
Hernosand	30.32	770.1	30.37	771.4	7.9	—13.4	100	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	30.25	768.4	30.43	772.9	17.4	— 8.1	97	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	30.25	768.4	30.36	771.2	27.7	— 2.4	96	SE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.36	771.2	30.44	773.1	14.2	— 9.9	88	SSE	0	0	.....	.....	10	.....	.....	0.022	0.55	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.2	30.06	763.4	41.4	5.2	76	S	.....	.....	1	.....	9	.....	.....	0	0	.....	The Observatory.
Zurich	28.38	721.0	30.10	764.5	32.7	0.4	92	W	.....	.....	2	.....	6	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.1 mm.; Thermometer, +3.3 cent.; Relative Humidity, —1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.30	769.5	41.9	5.5	71	ENE	22	10.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.13	765.2	55.6	13.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.94	760.5	30.06	763.4	64.4	18.0	57	W	.....	.....	1	.....	10ks	.....	W	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	30.26	768.6	30.61	777.5	—12	—24.4	.....	Calm	0	0	.....	0	2s	.....	NW	0	0	Clear.....	W. R. Bigg.
*Chatham, N B	29.75	755.6	29.82	757.4	— 4	—20.0	94	NW	19	8.5	.....	0	0	.....	.....	0.40	10.2	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	29.45	748.0	29.50	749.3	9	—12.8	92	N	28	12.5	.....	.....	10n	.....	Calm	0.100	2.54	Light snow..	H. J. Cundall, C. E.
Cornwall, Ontario	30.33	770.4	30.55	776.0	—14.5	—25.8	100	NW	.....	.....	1	0	0	.....	.....	0.15	3.8	Clear.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.77	756.1	29.71	754.6	36.1	2.3	92	NE	.....	.....	.....	2k	0	.....	.....	0	0	Fair.....	W. H. Bevis.
*Father Point, Quebec	30.15	765.8	30.17	766.3	—10	—23.3	82	NW	25	11.2	.....	5k	2ks	N	NW	0.06	1.5	Fair.....	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.94	760.5	— 3.9	—19.9	71	NW	17	7.6	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	28.82	732.0	29.68	753.9	26	— 3.3	96	S	22	9.8	.....	.....	10n	.....	.....	0.050	1.27	Light snow..	James Stewart.
Granton, Ontario	29.33	745.0	30.56	776.2	5	—15.0	.....	E	.....	.....	1	.....	10n	.....	.....	0	0	Overcast.....	James Grant.
*Halifax, N. S	29.33	745.0	29.47	748.5	8	—13.3	96	NW	36	16.1	.....	.....	10n	.....	.....	0.550	13.97	Light snow.	F. Allison, M. A.
Hamilton, Ontario	30.19	766.8	30.61	777.5	4.9	—15.1	93	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.04	737.6	29.06	738.1	34	1.1	100	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	E. Weedon.
*Kingston, Ontario	30.24	768.1	30.63	778.0	— 8	—22.2	71	N	5	2.2	.....	10ck	0	N	.....	0.02	0.5	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	8	.....	10s	.....	N	0.20	5.1	Snowing.....	C. H. Rigby.
Moose Factory, Ontario	30.48	774.2	30.52	775.2	—29.0	—33.9	89	SW	.....	.....	1	2cs	0	.....	.....	Inap	Inap.	Fair.....	J. R. Nason.
*Montreal, Quebec	30.26	768.6	30.49	774.4	—11	—23.9	100	W	24	10.7	.....	0	0	.....	.....	0.83	21.1	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.82	757.4	30.65	778.5	—17	—27.2	62	N	3	1.3	.....	0	0	.....	.....	0.05	1.3	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.77	756.1	30.62	777.7	—12.0	—24.4	60	N	.....	.....	.....	4ks	0	.....	.....	Inap.	Inap.	Fair.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.80	756.9	30.57	776.5	1	—17.2	100	N	4	1.8	.....	10ck	0	SW	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Stanley, Ontario	29.83	757.7	30.54	775.7	11	—11.7	96	NE	.....	.....	.....	.....	8ks	.....	NW	0	0	Cloudy.....	Peter Grant.
*Quebec, Quebec	29.97	761.2	30.35	770.9	—16	—26.7	70	NW	.....	.....	5	0	0	.....	.....	0.40	10.2	Clear.....	M. Payne.
*Rockliffe, Ontario	30.11	764.8	30.65	778.5	—13	—25.0	100	NW	3	1.3	.....	.....	8s	.....	NW	0.43	10.9	Cloudy.....	Capt. Ashe, R. N.
St. Andrews, N. B	29.83	757.7	29.88	758.9	— 2	—18.9	71	N	.....	.....	3	0	0	.....	.....	0.35	8.9	Clear.....	W. H. McIntyre.
St. John, N. B	29.68	753.9	29.86	758.4	1	—17.2	100	N	18	8.0	.....	0	1c	.....	.....	0.07	1.8	Fine.....	Dr. Gove.
*Saugeen, Ontario	29.76	755.9	30.57	776.5	3	—18.9	90	E	8	3.6	.....	5cs	5ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap.	.....	K. Stewart.
Stratford, Ontario	29.15	740.4	30.62	777.7	— 2.6	—19.2	97	Calm	0	0	.....	5ck	3s	.....	.....	0	0	Fair.....	R. J. Cole.
*Sydney, C. B	29.03	737.3	29.08	738.6	19	— 7.2	100	N	33	14.8	.....	.....	10n	.....	.....	0.43	10.9	Light snow..	C. J. MacGregor, M. A.
*Toronto, Ontario	30.19	766.8	30.63	778.0	0	—17.8	91	N	6	2.7	.....	2ck	2s	N	NW	0	0	Fair.....	T. C. Hill.
Windsor, N. S	29.53	750.0	29.63	752.6	7.5	—13.6	100	NW	30	13.4	.....	0	0	.....	.....	0.53	13.5	Snowing.....	Magnetic Observatory.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	33.0	0.6	100	SE	.....	.....	.....	Fog	Fog	.....	.....	.....	.....	.....	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rain and fog	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From —	CLOUDS. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inch's.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim's.	WEATHER.	OBSERVER.
Albany, New York	30.19	766.8	30.45	773.4	— 2	—18.9	84	NW	24	10.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Alpena, Michigan	29.81	757.2	30.53	775.4	15	— 9.4	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.13	739.9	30.30	769.6	50	10.0	86	NW	10	4.5	.....	2c;hz	Haze	Calm	Calm	0	0	Hazy	
Atlantic City, New Jersey	30.36	771 1	30.38	771.6	22	— 5.6	72	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.14	765.5	30.32	770.1	56	13.3	40	NE	17	7.6	.....	5cs	1s	W	Calm	0	0	Fair	
Baltimore, Maryland	30.43	772.9	30.48	774.2	28	— 2.2	66	NW	7	3.1	.....	Haze	2s	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	30.34	770.9	30.36	771.1	19	— 7.2	69	N	23	10.3	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	27.41	696.2	29.26	743 2	31	— 0.6	89	S	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
Boerne, Texas	28.61	726.7	29.92	760.0	57	13.9	100	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	26.91	683.5	29.87	758.7	33	0.6	79	N	1	0.4	.....	.....	10s	.....	Calm	0.29	7.4	Cloudy	
Boston, Massachusetts	30.08	764.0	30.25	768.3	6	—14.4	28	NW	22	9.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Brackettville, Texas	28.85	732.8	29.87	758.7	62	16.7	94	SE	10	4.5	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.54	724.9	29.55	750.6	30	— 1.1	89	SE	44	19.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.00	762.0	30.06	763.5	64	17.8	94	E	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Buffalo, New York	29.79	756.7	30.58	776.7	9.5	—12.5	89	NE	3	1.3	.....	.....	10n	.....	NE	0.07	1.8	Light snow	
Burkes, Arizona	.....	.....	.....	.....	48	8.9	Inap.	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.18	766 6	30.52	775.2	—10	—23 3	56	NE	10	4.5	.....	0	0	.....	.....	0.09	2.3	Clear	
Cairo, Illinois	29.89	759.2	30.30	769.6	45	7.2	53	E	4	1.8	.....	0	8s	.....	E	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.07	636.8	29.87	758.7	47	8.3	34	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	42	5.6	34	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp o, California	27.44	697.0	30.01	762.2	38	3.3	90	SW	4	1.8	.....	.....	10s	.....	SW	0.07	1.8	Cloudy	
Cape Hatteras, N. Carolina	30.40	772.1	30.40	772.1	39	3.9	55	NE	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.42	772.6	30.44	773.2	35	1.7	61	NW	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.43	772.9	30.45	773.4	42	5.6	50	NE	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.39	771.9	30.42	772.6	23	— 5.0	73	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.27	743.4	29.97	761.2	60	15.6	94	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.30	769.6	30.37	771.4	56	13.3	49	NE	9	4.0	.....	10c	0	Calm	.....	0	0	Cloudy	
Cheyenne, Wyoming	23.52	597.4	29.46	748.3	36	2.2	90	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.60	751.8	30.34	770.6	29	— 1.7	78	SE	10	4.5	.....	5cs	0	NW	.....	0	0	Fair	
Cincinnati, Ohio	29.79	756.7	30.49	774.4	34	1.1	61	E	3	1.3	.....	1cs	0	NW	.....	0	0	Clear	
Cleveland, Ohio	29.76	755.9	30.56	776.2	17	— 8.3	67	E	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Coleman City, Texas	28.24	717.3	29.93	760.2	47	8.3	77	S	4	1.8	.....	2c	Fog	Calm	Calm	0	0	Foggy	
Columbus, Ohio	29.59	751.6	30.50	774.7	28	— 2.2	67	E	6	2.7	.....	5ck	0	.....	.....	0	0	Fair	
Corsicana, Texas	28.10	713.7	29.78	756.4	52	11.1	86	S	12	5.4	.....	10k	0	S	.....	0	0	Cloudy	
Davenport, Iowa	29.64	752.8	30.11	764.8	58	14.4	94	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	29.54	750.3	30.21	767.3	29	— 1.7	67	SE	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Decatur, Texas	24.68	626.9	.....	.....	53	11.7	36	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	28.91	734.3	30.08	764.0	55	12.8	93	S	14	6.3	.....	.....	Fog	.....	.....	0	0	Foggy	
Denver, Colorado	29.28	743.7	30.07	763.8	57	13.9	94	S	8	3.6	.....	0	Fog	.....	Calm	0	0	Foggy	
Des Moines, Iowa	24.26	716.2	29.48	748.8	51	10.6	16	SE	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29 08	738.6	29.98	761.5	38	3.3	72	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	29.77	756.1	30 51	774.9	18	— 7.8	84	E	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Dubuque, Iowa	27 21	691.1	29.50	749.3	41	5.0	91	S	12	5.4	.....	0	2s	.....	S	0	0	Fair	
Duluth, Minnesota	29.41	747.0	30.14	765.5	30	— 1.1	78	S	14	6.3	.....	.....	10ks	.....	S	0	0	Cloudy	
Eagle Pass, Texas	29.29	744.0	30.00	762.0	28	— 2.2	94	NE	16	7.2	.....	.....	10n	.....	NE	0.01	0.3	Light snow	
Eastport, Maine	29.24	742.7	29.97	761.2	60	15.6	88	Calm	.....	.....	0	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Edinburg, Texas	29.52	757.4	29.90	759.4	— 2	—18.9	67	NW	31	13.9	.....	2k	0	NW	.....	0.08	2.0	Clear	
El Paso, Texas	.....	.....	.....	.....	65	18.3	94	E	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	
Erie, Pennsylvania	26.15	664.2	.....	.....	57	13.9	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.76	755.9	30.55	776 0	14	—10.0	82	SE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Florence, Arizona	29.67	753.6	30.39	771.9	13	—10.6	81	N	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Buford, Dakota	28.34	719.8	29.94	760.5	46	7.8	62	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.39	644.9	30.45	748.0	28	— 2.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.12	638.0	30.08	764.0	40	4.4	63	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.53	750.0	30.07	763.8	55	12.8	87	S	8	3.6	.....	.....	10ks	.....	S	Inap.	Inap.	Cloudy	
Fort Griffin, Texas	28.75	730.2	30.04	763.0	46	7.8	92	Calm	0	0	.....	5c	5s	Calm	Calm	0	0	Cloudy	
Fort Keogh, Montana	26.67	677.4	.....	.....	33	0.6	.....	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.77	692.6	29.70	754.4	50	10.0	86	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.81	731.8	29.93	760.2	49	9.4	100	S	3	1.3	.....	.....	Fog	.....	S	0	0	Dense fog	
Fort Stevenson, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fredericksburg, Texas	28.30	718.8	29 86	758.4	58	14.4	94	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Galveston, Texas	30.09	764.3	30.14	765.5	58	14.4	100	E	8	3.6	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Graham, Texas	28.96	735.6	30.02	762.5	52	11.1	93	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.71	754.6	30.42	772.6	20	— 6.7	70	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.55	750.6	30.38	771.6	31	— 0.6	69	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.08	764.0	30.11	764.8	59	15.0	100	E	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Jacksboro, Texas	28.88	733.5	30.02	762 5	53	11.7	93	S	16	7 2	.....	.....	Fog	.....	.....	0	0	Foggy	
Jacksonville, Florida	30.25	768.3	30.28	769.1	50	10.0	86	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Keokuk, Iowa	29.48	748.8	30.12	765.0	35	1.7	80	SE	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Key West, Florida	30.16	766.1	30.20	767.1	67	19.4	95	NE	12	5.4	.....	5c	1s	W	E	0	0	Fair	
Kittyhawk North Carolina	30.40	772.1	30.43	772 9	37	2.8	53	N	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.32	744.7	30.37	771.4	40	4.4	48	NE	8	3.6	.....	8cs	Sm'e	W	.....	0	0	Fair	
La Crosse, Wisconsin	29.34	745.2	30.11	764.8	33	0.6	70	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	25.97	659.6	30.12	765.0	33	0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.55	750.6	29.89	759.2	64	17.8	89	SE	6	2.7	.....	10k	0	S	.....	0	0	Cloudy	
Leavenworth, Kansas	29.12	739.6	29.98	761.5	40	4.4	91	SE	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.67	753.6	30.02	762.5	44.5	6.8	68	NW	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear	
Louisville, Kentucky	29.77	756.1	30.37	771.4	35	1.7	100	E	7	3.1	.....	0	Fog	.....	Calm	0	0	Foggy	
Lynchburg, Virginia	29.75	755.6	30.48	774.2	33	0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.22	742.2	30.26	768.6	30	— 1.1	68	SE	14	6.3	.....	.....	10s	.....	W	0	0	Cloudy	
Marquette, Michigan	29.52	749.8	30.27	768 8	23	— 5.0	60	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.42	721.9	30.18	766.6	53	11.7	93	S	2	0.9	.....	0	5s	.....	S	0	0	Fair	
Memphis, Tennessee	29.91	759.7	30.24	768.1	49	9.4	93	E	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.59	751 6	30.35	770.9	35	1.7	70	SE	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.23	767.8	30.28	769.1	50	10.0	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Montgomery, Alabama	30.05	763.3	30.30	769.6	50	10.0	86	NW	2	0.9	.....	5c	Sm'e	NW	Calm	0	0	Fair	
Morgantown, West Virginia	29.40	746.7	30.51	775.7	28	— 2.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.16	588.2	29.52	749.8	—19	—28.3	30	NW	57	25.5	.....	0	2c	.....	NW	0.43	10.9	Clear	
Nashville, Tennessee	29.76	755.9	30.32	770.1	42	5.6	66	NE	1	0.4	.....	5c	0	NW	.....	0	0	Fair	
New Haven, Connecticut	30.17	766.3	30.30	769.6	8	—13.3	78	N	24	10.7	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.23	767.8	30.28	769.1	10	—12.2	58	N	15	6.7	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.15	765.8	30.21	767.3	55	12.8	87	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.15	765.8	30.21	767.3	13	—10.6	44	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.16	766.1	30.35	770.9	16	— 8.9	49	NW	12	5.4	.....	Haze	Haze	Calm	.....	0	0	Hazy	
Norfolk, Virginia	30.39	771.9	30.45	773.4	33	0.6	50	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	nches.	illimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'per 0—10	Low'r —10.	Upper.—From—	Lower.—From—	Inches.	Millimeters.		
North Platte, Nebraska	26.65	676.9	29.20	741.7	35	1.7	90	S	24	10.7	.....	0	Haze	.....	Calm	0	0	Hazy	
Olympia, Washington Ter.	29.72	754.9	29.76	755.9	34.2	1.2	90	S	1	0.4	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Omaha, Nebraska	28.69	728.7	29.79	756.7	42	5.6	83	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.23	767.8	30.58	776.7	10	—12.2	79	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pembina, Dakota	28.74	730.0	29.68	753.3	31	— 0.6	79	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	30.36	771.1	30.42	772.6	20	— 6.7	70	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.70	729.0	30.50	774.7	53	11.7	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.38	441.5	29.58	751.3	15	— 9.4	14	SW	72	32.2	.....	1c	0	Calm	.....	0	0	Clear	
Pioche, Nevada	23.80	604.5	29.57	751.1	27	— 2.8	76	NW	4	1.8	.....	0	0	.....	.....	0.09	2.3	Clear	
Pittsburg, Pennsylvania	29.65	753.1	30.54	775.7	20	— 6.7	85	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.78	756.4	30.52	775.2	13	—10.6	81	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.09	764.3	30.15	765.8	6	—14.4	76	NW	20	8.9	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Oregon	29.73	755.1	29.83	757.7	37.0	2.8	86	S	3	1.3	.....	.....	10n	.....	S	0.08	2.0	Light rain	
Prescott, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pilot Point, Texas	29.05	737.9	29.89	759.2	42	5.6	73	SE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.23	767.8	30.25	768.3	61	16.1	88	NE	9	4.0	.....	.....	Fog	.....	NE	0	0	Foggy	
Red Bluff, California	29.54	750.3	29.90	759.4	42	5.6	91	SE	16	7.2	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Rio Grande City, Texas	29.81	757.2	30.02	762.5	65	18.3	89	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Rochester, New York	29.88	758.9	30.56	776.2	10	—12.2	79	W	9	4.0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Roseburg, Oregon	29.29	744.0	29.87	758.7	35	1.7	95	S	5	2.2	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Sacramento, California	29.90	759.4	29.98	761.5	43.4	6.3	90	S	8	3.6	.....	.....	10n	.....	S	2.03	51.6	Light rain	
St. Louis, Missouri	29.65	753.1	30.25	768.3	37	2.8	71	SE	12	5.4	.....	.....	10ks	.....	SW	0	0	Cloudy	
St. Marks, Florida	30.26	768.6	30.28	769.1	45	7.2	92	SW	4	1.8	.....	1c	Fog	Calm	Calm	0	0	Clear	
St. Paul, Minnesota	29.00	736.6	29.85	758.2	32	0.0	80	SE	42	18.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Salt Lake City, Utah	25.43	645.9	29.76	755.9	53	0.6	70	NE	14	6.3	.....	0	7s	.....	SW	Inap.	Inap.	Fair	
San Antonio, Texas	29.36	745.7	29.94	760.5	60	15.6	100	E	3	1.3	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
San Diego, California	29.99	761.7	30.07	763.8	46.8	8.2	84	N	4	1.8	.....	0	5s	.....	Calm	0.01	0.3	Fair	
Sandusky, Ohio	29.80	756.9	30.53	775.4	25	— 3.9	75	SE	11	4.9	.....	10cs	0	Calm	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.32	770.1	30.36	771.1	18	— 7.8	68	N	27	12.1	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.91	759.7	29.98	761.5	47	8.3	70	W	9	4.0	.....	.....	8n	.....	Calm	0.40	10.2	Heavy rain	
Santa Fé, New Mexico	23.12	587.2	29.66	753.4	38	3.3	45	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.22	767.6	30.31	769.9	54	12.2	87	NE	6	2.7	.....	5c	Fog	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.94	760.5	30.16	766.1	53	11.7	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Silver City, New Mexico	24.18	614.2	30.48	774.2	35	1.7	80	S	3	1.3	.....	.....	2s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.39	771.9	30.43	772.9	49	9.4	44	N	12	5.4	.....	2c	0	W	.....	0	0	Clear	
Springfield, Massachusetts	30.17	766.3	30.32	770.1	7	—13.9	54	N	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.91	683.5	29.92	760.0	49	9.4	71	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.15	765.8	30.22	767.6	7	—13.9	54	NW	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.76	755.9	30.51	774.9	22	— 5.6	72	N	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Tucson, Arizona	.....	.....	.....	.....	44	6.7	44	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.29	769.4	30.32	770.1	53	11.7	86	E	11	4.9	.....	5c	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.46	748.3	29.96	761.0	33.0	0.6	89	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	31	— 0.6	89	SW	.....	.....	4	.....	10s	.....	SW	0.26	6.6	Cloudy	
Uvalde, Texas	29.13	739.9	29.94	760.5	61	16.1	88	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.00	762.0	30.26	768.6	57	13.9	90	SE	6	2.7	.....	5c	Sm'e	Calm	.....	0	0	Fair	
Virginia City, Montana	23.75	603.2	29.23	742.4	28	— 2.2	100	W	10	4.5	.....	.....	10n	.....	Calm	0.26	6.6	Heavy snow	
Visalia, California	29.67	753.6	30.06	763.5	39	3.9	86	SE	2	0.9	.....	0	0	.....	.....	0.20	5.1	Clear	
Washington, D. C.	30.39	771.9	30.51	774.9	28	— 2.2	77	NW	7	3.1	.....	2ck	0	NW	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	42	5.6	58	N	.....	.....	1	5cs	0	W	.....	0	0	Fair	
Wilmington, N. Carolina	30.35	770.9	30.43	772.9	47	8.3	28	NE	7	3.1	.....	2c	0	NW	.....	0	0	Fair	
Winnemucca, Nevada	25.43	645.9	29.79	756.7	27	— 2.8	76	SW	3	1.3	.....	0	2s	.....	Calm	0.07	1.8	Fair	
Wood's Holl, Mass	30.14	765.5	30.18	766.6	12	—11.1	78	NW	32	14.3	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.39	721.1	29.68	753.9	38	3.3	31	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.72	754.9	29.89	759.2	55	12.8	39	NW	13	5.8	.....	5cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
Fayetteville, Ark.	28.53	724.6	29.93	760.2	57	13.9	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.12	765.0	30.17	766.3	74	23.3	81	NE	1.2	0.5	.....	0	2ks	.....	NE	0.17	4.3	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.20	767.1	30.21	767.3	74	23.3	81	Calm	0	0	.....	2c	2s	Calm	SE	0	0	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.96	761.0	30.04	763.0	79	26.1	.....	NE	11.7	5.2	.....	.....	.....	.....	.....	0.01	0.3	Fair	F. M Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	75.5	24.2	93	E	.....	.....	2	.....	10n	.....	E	1.450	36.83	Raining	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.42	772.6	30.48	774.2	—38.0	—38.9	.....	W	5	2.2	.....	0	2s	.....	NW	0	0	Fair	J. Fortescue W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 2,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,576 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,802.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.89	759.2	44	6.7	44	6.7	84	S	1	0.4	.....	.....	8	.....	SE	0.40	10.2	.....	.....	Threatening	
Navy Yard, Pensacola, Fla.	30.35	770.9	56	13.3	56	13.3	76	NE	5	2.2	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	30.20	767.1	52	11.1	2	—16.7	??	NNW	8	3.6	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan....*	30.31‡	769.9‡	.....	.....	33.5	0.8	76	Calm	.....	.....	0	.....	Haze	.....	Calm	0	0	.....	.....	Clear	
Alaska, N. 10° 36', W. 86° 25'	30.07	763.8	80	26.7	78	25.6	82	NNE	.....	.....	5	.....	0	.....	.....	0	0	Mod'ate	NE	Blue sky	
Alliance, Smyrna, Turkey	30.12‡	765.0‡	.....	.....	51	10.6	65	Calm	.....	.....	0	.....	3	.....	Calm	.....	.....	.....	.....	Clear	
Ashuelot, Saigon, Cochin, China	30.03	762.8	80	26.7	80	26.7	78	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Canonicus, New Orleans, La	30.18	766.6	40	4.4	55	12.8	100	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.	30.26	768.6	18	— 7.8	18	— 7.8	100	WNW	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constitution, Portsmouth, England	30.09‡	764.3‡	.....	.....	40	4.4	91	NNE	3	1.3	.....	.....	10	.....	NE	.....	.....	.....	.....	Misty	
Despatch, Constantinople, Turkey	30.30‡	769.6‡	.....	.....	44	6.7	76	NE	.....	.....	3	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Essex, S. 46° 42', W. 63° 54'	29.38	746.2	62	16.7	59	15.0	100	S	.....	.....	3	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Franklin, Norfolk, Va.	30.59	777.0	68	20.0	35	1.7	54	NNW	18.7	8.4	.....	.....	2	.....	N	0	0	.....	.....	Clear	
Gettysburg, Genoa, Italy	30.01‡	762.2‡	.....	.....	54	12.2	67	N	.....	.....	2	.....	5	.....	.....	0	0	.....	.....	D. clouds	
Hartford, Montevideo, Uruguay	29.49	749.0	76	24.4	74	23.3	90	NNW	10	4.5	.....	.....	8	.....	NNW	0.32	8.1	Smooth	.....	Hazy	
Lackawana, Panama....*	29.69‡	754.1‡	.....	.....	78	25.6	86	N	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.	30.20†	767.1†	.....	.....	13	—10.6	81	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Monocacy, Nagasaki, Japan ....*	30.51‡	774.9‡	.....	.....	40	4.4	39	NE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Monongehela, Yokohama, Japan ....*	30.28‡	769.1‡	.....	.....	30	— 1.1	??	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Blue sky	
New Hampshire, Port Royal, S. C.	30.42†	772.6†	.....	.....	55	12.8	74	NE	13	5.8	.....	.....	2	.....	NE	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.00†	762.0†	.....	.....	68	20.0	90	Var.	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	30.51	774.9	24	— 4.4	18	— 7.8	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	29	— 1.7	78	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, N. 6° 50', W. 79° 55'	29.87‡	758.7‡	.....	.....	79	26.1	100	W	8	3.6	.....	.....	2	.....	.....	0	0	Smooth	N	Fair	
Powhatan, Norfolk, Va.	30.40	772.1	37	2.8	37	2.8	100	NNW	.....	.....	4	.....	2	.....	.....	0	0	.....	.....	Fair	
Quinnebaug, N. 36° 21', W. 30° 02'	30.47‡	773.9‡	.....	.....	63	17.2	72	WSW	.....	.....	3	.....	10	.....	WSW	.....	.....	Smooth long	WNW	Cloudy	
Ranger, Yokohama, Japan.....*	30.32‡	770.1‡	.....	.....	41	5.0	74	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, N. 35° 53', W. 28° 58'	30.47‡	773.9‡	.....	.....	63	17.2	72	WNW	.....	.....	2	.....	5	.....	.....	.....	.....	Smooth	NNW	Fair	
Rio Bravo, Brownsville, Texas	30.03	762.8	65	18.3	63	17.2	100	SE	.....	.....	2	.....	Fog	.....	SE	.....	.....	.....	.....	Foggy	
Santee, Annapolis, Md	30.42‡	772.6‡	.....	.....	29	— 1.7	.....	NW	.....	.....	2	.....	2	.....	SW	0	0	.....	.....	Clear	
St. Louis, League Island, Pa	30.29	769.4	55	12.8	21	— 6.1	.....	NW	16	7.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Supply, N. 33° 25', W. 16° 35'	30.30‡	769.6‡	.....	.....	61	16.1	72	NNE	.....	.....	4	.....	2	.....	NE	.....	.....	Smooth	.....	Clear	
Trenton Villafranca, France *...	30.01‡	762.2‡	.....	.....	57	13.9	81	W	.....	.....	1	.....	10	.....	Calm	0.5	13.	.....	.....	Overcast	
Tuscarora, N. 7° 44', W. 83° 10'	29.86‡	758.4‡	.....	.....	83	28.3	83	WNW	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.25‡	768.3‡	.....	.....	6	—14.4	76	NW	23	10.3	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Wyoming, N. 38° 22', E. 15° 29'	30.36	771.1	65	18.3	60	15.6	94	NE	.....	.....	2	.....	2	.....	NE	.....	.....	Smooth	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Amount.		Direction.						
									Force.	Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																		
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																		
S. S. China																		Capt. Cobb.
S. S. City of New York																		Capt. Seabury.
S. S. City of Panama																		Capt. Berry.
S. S. City of Peking																		Capt. Dearborn.
S. S. City of Sydney																		Capt. Maury.
S. S. City of Tokio																		
S. S. Colima, N. 36° 36', W. 122° 11'		30.00†	762.0†	56	13.3	87	W		3–5		7		W		Heavy Ground	W	Showery	Capt. Searle.
S. S. Costa Rica																		Capt. Whitebury
S. S. Dakota, Capt. Morse																		
S. S. Georgia																		Capt. Connolly.
S. S. Grenada																		Capt. Austin.
S. S. Wilmington																		Capt. A. Fuller.
S. S. Zealandia, Sydney, Australia		30.00	762.0				SSE		3		10		ESE				Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																		Capt. H. H. Perry.
S. S. Baltic																		Capt. J. W. Jenning.
S. S. Britannic																		Capt. W. H. Thompson.
S. S. Celtic																		Capt. B. Gleadell.
S. S. Germanic																		Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Myer, N. 38° 42', W. 140° 40'		30.14*	765.5*	60	15.6	88	NW		6		ks		NW		Rough cross	NW	D. clouds	J. A. Thompson, 2d Off
S. S. Gaelic, N. 41° 30', W. 137° 40'		30.07†	763.8†	50	10.0	??	N		4		s		Var.	Blank	High	NW	Squally	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																		J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																		Capt. H. Andressen.
S. S. Berlin																		Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, N. 50° 20' W. 2° 47'		30.15	765.8	39.0	3.9	100	NE		4		10		NE		Smooth	NE	Hazy	L. Jahns.
S. S. Leipzig																		Capt. F. Pfeiffer.
S. S. Nürnberg																		Capt. A. Jaeger.
S. S. Ohio																		Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 56′, W. 16° 46′		30.03*	762.8*	52	11.1	92	N			3		3		NW	Blank	Mod'ate	WSW		Captain Sargent.
S. S. Ohio, N. 41° 40′, W. 63° 50′		30.13†	765.3†	28	—2.2	??	NNW			7		5		NNW	Blank	Large	NW	Cloudy	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 50° 46′, W. 35° 43′		29.81*	757.2*	44	6.7		SSW			3		2c		N	0	Heavy cross	W;NW	D. clouds	Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, N. 39° 10′, W. 72° 30′		30.24	768.1	31	—0.6	79	NNW	20	8.9			2k		N	0	Heavy	NW	Clear	Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

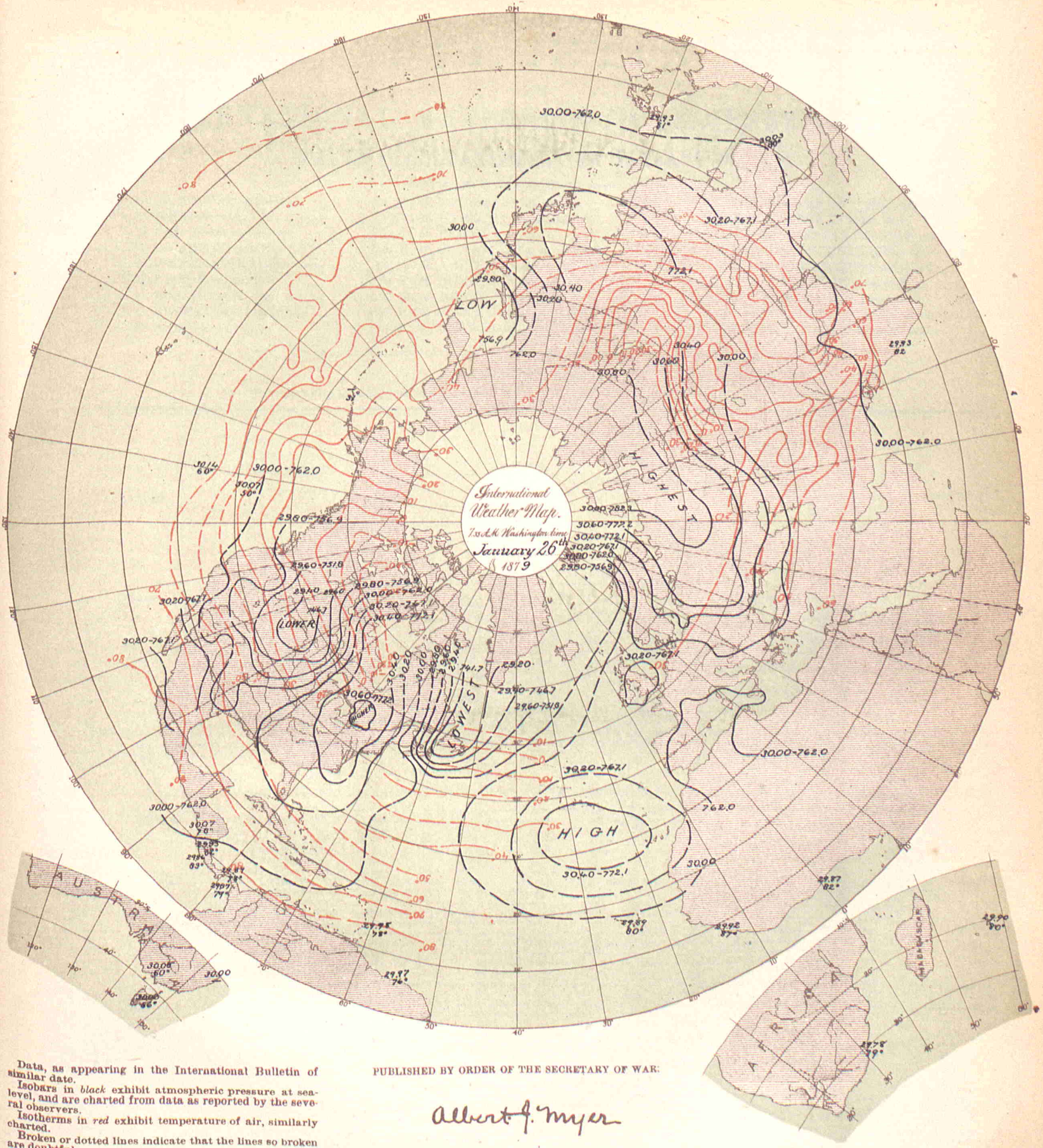
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR:

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 27, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	BAROMETER: Corrected for instrum'tal error and temperature. Inches.	BAROMETER: Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER: Reduced to sea-level. Inches.	BAROMETER: Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mogador, Marocco	.....	.....	30.15	765.9	60.1	15.6	79	N	.....	.....	1	.....	2	.....	.....	0.177	4.5	Fair	
Nemours	.....	.....	30.06	763.4	62.2	16.8	78	WNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.98	761.5	59.7	15.4	66	WNW	.....	.....	2	.....	8	.....	.....	Inap.	Inap.	Very cloudy	Tourliere.
La Calle	.....	.....	30.05	763.3	62.8	17.1	70	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.10	764.4	61.3	16.3	54	S	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.11	764.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.97	761.2	51.8	11.0	44	SW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.11	764.9	57.2	14.0	50	SW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	29.95	760.8	42.6	5.9	77	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.07	763.8	49.3	9.6	84	SSW	.....	.....	2	.....	5	.....	.....	0.003	0.08	Cloudy	Bertrand.
Biskra	.....	.....	30.04	763.1	58.5	14.7	63	ESE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.74	755.5	30.33	770.3	33.1	0.6	92	.....	.....	.....	.....	10	.....	.....	0	0	Foggy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.58	751.3	30.40	772.1	27.3	— 2.6	83	NNE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.45	747.9	30.39	771.9	25.5	— 3.6	95	Calm	.....	.....	0	.....	10ks	.....	S	0	0	.....	Julius Mikolik.
Gratz	29.02	737.0	30.33	770.4	33.1	0.6	89	SSW	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	Andreas Rospini.
Hermannstadt	28.90	734.0	30.43	772.8	28.4	— 2.0	86	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.85	732.7	30.26	768.6	31.8	— 0.1	96	ENE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.31	744.4	30.37	771.4	24.4	— 4.2	97	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.13	765.2	30.24	768.2	54.1	12.3	73	ESE	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.91	759.8	30.41	772.5	26.1	— 3.3	85	W	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	Julius Csics, S. J.
Szegedin	30.10	764.4	30.39	772.0	32.4	0.2	89	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.16	766.1	30.26	768.7	54.0	12.2	78	Calm	.....	.....	0	.....	6	.....	.....	0.890	22.6	.....	P. Busin.
Vienna	30.61	752.0	30.37	771.5	27.1	— 2.7	100	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m., Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.34	770.6	30.45	773.4	31.9	— 0.1	.....	WNW	4	1.8	.....	.....	3	.....	.....	0	0	Misty	W. Boswell.
Ardrossan	30.46	773.7	30.48	774.2	36	2.2	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Foggy	William McNeil.
Armagh, Observatory	.....	.....	30.52	775.2	33.6	0.9	.....	SSE	1	0.4	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.48	774.2	34.4	1.3	.....	ESE	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton	.....	.....	30.47	773.9	33.1	0.6	.....	E	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	30.08	764.0	30.47	773.9	32.7	0.4	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	79.5	26.4	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	30.44	773.2	34.5	1.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [O.
Cardington	.....	.....	30.50	774.7	34.4	1.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	30.28	769 1	30.42	772.6	34.7	1.5	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	28.80	731.5	30.35	770.9	30.0	— 1.1	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	30.47	773.9	30.51	774.9	34	1.1	.....	WSW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.35	770.9	30.38	771.6	36	2.2	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	J. Costello.
Falmouth, Observatory	30.14	765.5	30.38	771.6	38.2	2.3	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.40	696.0	29.72	754.9	82.0	27.8	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Foggy	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.68	753.9	29.91	759.7	86	30.0	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.45	773.4	41	5.0	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	D. clouds	
Gibraltar, (Mediterranean)	29.95	760.7	30.01	762.2	54.6	12.6	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Glasgow, Observatory	30.25	768.3	30.45	773.4	34.0	1.1	.....	SSW	.....	.....	3	.....	.....	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Great Yarmouth	30.42	772.6	30.43	772.9	34	1.1	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Greenwich, Royal Obs'y	30.24	768.1	30.42	772.6	34.1	1.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	G. T. Watson.
Guernsey	30.06	763.5	30.28	769.1	40	4.4	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Helston	30.28	769.1	30.40	772.1	38	3.3	.....	N	.....	.....	1	.....	10k	.....	.....	0	0	Overcast	F. R. S. Lecksicus, F.R.S
Holyhead	30.40	772.1	30.45	773.4	37	2.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	M. P. Argyle.
Jersey	30.01	762.2	30.31	769.9	37.3	2.9	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	John Tilston.
Kew, Observatory	30.38	771.6	30.42	772 6	35.1	1.7	.....	NE	16	7.2	.....	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Leicester, Museum	30.20	767.1	30.47	773.9	34.1	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	The Staff.
Malta, (Mediterranean)	30.08	764.0	30.16	766.1	62	16.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Wm. J. Harrison, F.G.S.
Nairn	30.32	770.1	30.42	772.6	40	4.4	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded	Sergt. Beckett, A. H. C.
Nassau, (Bahamas)	.....	.....	30.21	767.3	71.5	21.9	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	W. D. Penny.
Nottingham, Observatory	30.29	769.4	30.49	774.4	33.9	1.1	.....	NNE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	C. S. Dancombe.
Oscott, St. Mary's College	29.91	759.7	30.47	773.9	33.1	0.6	.....	NE	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y	.....	.....	30.44	773.2	34	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	Rev. Stephen Whitty.
Plymouth	30.29	769.4	30.36	771.1	37.5	3.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	H. E. Bellamy.
Roche's Point	30.42	772.6	30.47	773.9	38	3.3	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	Hazy	John Merrifield.
Saint Ann's Head	30.26	768.6	30.42	772.6	38	3.3	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	Misty	W. Kennedy.
Sandwick Manse, (Orkneys)	.....	.....	30.38	771.6	41.9	5.5	.....	WSW	27	12.1	.....	.....	8	.....	.....	.....	.....	D. clouds	John C. Walker.
Scutari, Cemetery, (Turkey)	.....	.....	30.39	771.9	41.4	5.2	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	Rev. C. Clouston, LL. D.
Sheffield	30.27	768.8	30.69	779.5	33.8	1 0	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Gloomy	Sergt. W. H. Lyne.
Silloth Rectory	30.47	773.9	30 50	774.7	28.7	— 1.8	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Overcast	W. F. Cooper.
Stonyhurst Observatory	30.08	764.0	30.48	774.2	33.5	0.8	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Blue sky	Francis Redford, A. M.
Strathleid Turgiss	30.18	766.6	30.41	772.4	34.5	1.4	.....	E	.....	.....	1–2	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Thurso	30.31	769.9	30.37	771.4	40	4.4	.....	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	Foggy	Rev. G. H. Gratan, F.M.S
Truro, Royal Institution	.....	.....	30.36	771.1	39	3.9	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds	John Trotter.
Valencia, Observatory	30.46	773.7	30.49	774.4	41.8	5.4	.....	NE	4	1.8	.....	.....	4	.....	.....	.....	.....	Gloomy	W. Newcombe.
SUB-SERIES.																		D. clouds	The Staff.
Hobart Town, (Tasmania)	.....	.....	29.98	761.5	61	16.1	88	S	.....	.....	3	.....	10k	.....	.....	0	0	Covered	
Leith, Restalrig Park	.....	.....	30.46	773.7	34.0	1.1	.....	W	.....	.....	2	.....	.....	.....	.....	0.02	0.5	Hazy	Francis Abbott, F.R.A.S.
Mauritius, Observatory	29.75	755.6	29.94	760.4	81.4	27.4	76	NE	16.5	7.4	.....	2	7	.....	ENE	0.73	18.5	Squally	Andrew Gibb.
Melbourne, Observatory	29.88	758.9	29.97	761.2	66.0	18.9	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Fine	C. Meldrum.
Monach Li't-house, (Hebrides)	.....	.....	30.41	772.4	45	7.2	.....	W	.....	.....	3	3	3	W	.....	0.2	5.	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	30.20	767.1	42	5.6	.....	SSW	.....	.....	6	7	4	W	.....	0	0	.....	J. Youngehause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.22	666.0	29.94	760.5	59.0	15 0	78	SE			1					0	0	Clear	Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.38	771.7	30.43	772.9	25.7	— 3.5	98	N			2		10						
Fanöe	30.47	773.9	30.49	774.4	24.6	— 4.1	94	NE			2		10						
Godthaab, (Greenland)	29 37	745.9	29.41	747.0	24.6	— 4.1		NE			7		10						
Stykkishólm, (Iceland)																			
Thorshavn, (Faröe)	29.70	754.3	29.73	755.2	41.2	5.1	69	N			4		3						
Vestervig	30.31	769.8	30.48	774.1	28.4	— 2.0	82	Calm			0		5						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.75	755.6	30.30	769.6	34.2	1.2	96	NE			1		10			0.020	0.5	Covered	Collignon, Director.
Amiens, Normal School	30.18	766.5	30.30	769.5	34.9	1.6	89	NE			1		10			0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.09	764.3	30.17	766.3	51.3	10.7	86	N			1		10			0.08	2.	Rainy	M. Giraud, Director.
Bar-sur-Seine	29.69	754.0	30.28	769.0	37.9	3.3	83	E			1		10			0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.05	763.2	30.35	770.8	35.2	1.7	93	E			1		10			0.049	1.25	Covered	Frer Eugene Marie, Dir.
Besançon, Normal School	29.34	745.2	30.27	768.9	37.8	3.2	93	E			2		10		SW	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.37	745.9	30.28	769.2	36.1	2.3	96	E			1					0	0	Foggy	M. Marlot, Director.
Bourges, Normal School																			A. Waquet, Director.
Brest, Naval Observatory	29.95	760.8	30.20	767.0	41.7	5.4	87	NE			3		10		NE	0.010	0.25	Misty	M. de Rermaur, Director
Carcassonne, Normal School	29.73	755.2	30.16	766.1	46.0	7.8	91	NNW			1		5	W	SW	0.047	1.2	Cloudy	September, Director.
Caen, Normal School	30.20	767.0	30.27	768.9	37.4	3	86	NE			2		10			0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.69	754.0	30.28	769.1	35.6	2	67	N			1		10			0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.97	761.3	30.31	769.8	35.8	2.1	88	NNE			1		10			0.177	4.5	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.81	731.8	30.19	766.8	47.8	8.8	86	N			1		10			0.244	6.2	Covered	Allnard, Director.
Commercy, Normal School	29.46	748.2	30.38	771.6	33.4	0.8	92	ENE			2					0	0	Misty	Dr. Coulet, Director.
Commune de Grèasque*	29.02	737.4	30.17	766.4	51.1	10.6	84	E			2		8		SE	0.04	1.	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.42	747.3	30.22	767.5	43.5	6.4	82	ENE			1		10			0	0	Foggy	M. Ablard, Director.
La Rochesur-Yon, N. School	29.99	761.8	30.22	767.5	41.7	5.4	94	NE			3		10			0.24	6.	Covered	Mouillot, Director.
Le Mans, Normal School	29.98	761.5	30.31	769.8	34.7	1.5	100	E			2		10			0.069	1.75	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.28	743.6	30.23	767.9	37.6	3.1	93	SW			1		10			0	0	Foggy	Baudry, Director.
Lorient, Naval Observatory	30.15	765.9	30.25	768.4	37.4	3.0	93	NE			2				NE	0.020	0.5		Lt T. Carré, Director.
Mâcon, Normal School																			M. Galzin, Director.
Mirecourt, Normal School	29.21	741.8	30.30	769.5	32.9	0.5	89	NE			1					0	0	Foggy	M. Barbier, Director.
Nismes, Normal School	29.96	761.0	30.17	766.2	53.2	11.8	83	SW			3		10		S	0.167	4.25	Covered	Boyer, Director.
Privas, Normal School																			M. Cantier, Director.
Puy de Dome (Summit) Obs.	25 29	642.3			35.2	1.8	100	E			2		10			0.165	4.2	Covered	Allnard, Director.
Rochefort, Naval Obs'y	30.17	766.3	30.20	767.1	43.9	6.6	98	SE			1					0	0	Misty	Lt. Decante, Director.
Rouen, Normal School	30.23	767.9	30.32	770.1	37.4	3.0	81	NE			1		10			0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.24	768.1	30.27	768.9	37.4	3.0	88	ESE			2		10	ESE	ESE	0.276	7.00	Misty	Lt. Herconet, Director.
Saint Maur, (near Paris)	30.12	765.1	30.29	769.3	37.4	3.0	83	NE			1		ck	ENE		0	0		E. Renou, Director.
Tarbes, Normal School	29.09	738.8	30.14	765.5	51.8	11	71	W			1		10			0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.50	749.4	30.22	767.5	39.7	4.3	95	N			1		10			0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.5	30.01	762.2	75.6	24.2													L'Abbé Marchési.
Lyons, Observatory			30.23	767.7	39.0	3.9	93	NNE			1		10			0.087	2.2		Mr. Jays.
Marseilles, Observatory																0.008	0.2	Misty	The Staff.
Mont-Louis																			M. Cave.
Nice	24.79	629.6	30.10	764.6	33.4	0.8	87	SE	7.4	3.3			10			0.091	2.3		Dr. A. Nieper, Jr.
Paris, Montsouri Observ'y			30.16	766.1	58.1	14.5	68	E			1		10			0.567	14.4	Light rain	Marie Davy, Director
Perpignan	30.00	762.1			36.3	2.4	93	NE			2		8		NE	Inap.	Inap.		Dr. Fines.
Pic du Midi, (Summit,) H. P.	30.05	763.3	30.16	766.0	48.0	8.9	86	N	5.6	2.5			10			0.311	7.9		M. Baylac.
Pic du Midi, (Plantade,) H. P.																			Gen'l de Nansouty.
Toulouse, Observatory	22.42	569.5			34.3	1.3		NE			1		1			0	0	Clear	M. Mercadier Julier.
Tours	30.48	748.8	30.21	767.2	43.5	6.4	94	NNW			1		10			0.047	1.2		Cousin-Marquet.
Versailles, Observatory	30.06	763.4	30.25	768.4	36.3	2.4	96	E			1		10		E	0 098	2.5		Dr. A. Hémy, Director
Zi-Ka-Wei, (near Shanghai)			30.27	768.9	36.7	2.5		NE			1		10			0.181	4.59	Light fog	Marc Deschevrens, S. J.
	30.43	773.0	30.46	773.6	34.5	1.4	87	N	2.9	1.3			0			0.287	7.3	Clear	

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.39	746.4	30.24	768.0	33.1	0.6	82	NE	.....	.....	5	.....	9	NE	....	0	0	.....	.....
Berlin	30.21	767.4	30.39	772.0	34.3	1.3	86	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr Hoh.
Breslau	29.82	757.3	30.35	770.9	33.1	0.6	92	W	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & snow	Prof. Arndt.
Carlsruhe	29.84	758.0	30.30	769.5	34.3	1.3	91	NE	.....	.....	1	.....	10	E	.....	0	0	.....	Royal University Obs'y
Cassel	29.74	755.3	30.35	770.8	34.9	1.6	91	NE	.....	.....	1	.....	10	NE	....	0	0	.....	Albert Senz.
Crefeld	30.19	766.8	30.35	771.0	34.5	1.4	93	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. H. Möhl.
Emden	.....	.....	.....	.....	32.5	0.3	89	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Director Lose.
Frankfort on the Main	29.96	760.9	30.34	770.7	34.7	1.5	.....	E	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Friedrichshafen	28.78	730.9	30.29	769.3	31.6	— 0.2	79	SE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Physical Society.
Hamburg	30.39	771.9	30.47	773.8	30.9	— 0.6	90	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	M. Wilhelm.
Kiel	30.44	773.2	30.46	773 6	30.2	— 1.0	85	NE	.....	.....	2	.....	10	.....	.....	0	0	Cloudy	Captain F. Hegemann
Königsberg, (Prussia)	30.27	768.9	30.36	771.2	25.9	— 3.4	87	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. G. Karsten.
Köslin	.....	.....	30.22	770.2	32.5	0.3	.....	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. E Luther.
Leipsic, Observatory	29.94	760.5	30.39	771.8	32.0	0.0	100	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Memel, Naval School	30.30	769.7	30.35	770.9	23.9	— 4.5	88	S	.....	.....	2	.....	10n	.....	.....	0	0	Foggy	Prof. Bruhns, Privy Counsellor
Neufahrwasser	30.34	770.7	30.36	771.1	33.8	1.0	81	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	Skalweit.
Posen	30.09	764.3	30.40	772.2	27.0	— 2.8	89	N	.....	.....	1	.....	10	.....	.....	0.031	0.8	Misty	A. Lothes.
Strassburg (in Alsace)	29.74	755.4	30.32	770.2	33.4	0.8	87	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Dr. Magener
Stuttgart	29.30	744.2	30.29	769.4	32.9	0.5	87	E	.....	.....	1	.....	10	.....	.....	0	0	.....	Imp. University Observatory.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Foggy	Prof. Schoder.
Weissenburg, (Bavaria)	28.72	729.4	30.31	769.8	31.6	— 0.2	89	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Prof. Flesch.
Wustrow, Naval School	30.43	772.9	30.45	773.5	31.5	— 0.3	90	SSE	.....	.....	1	.....	10s	.....	.....	0	0	Foggy	Dr. Van Bebber.
German Naval Series.																			E. Schütz, Dir.
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.94	760.5	30.34	770.7	48.7	9.3	.....	NE	.....	.....	4.5	.....	.....	....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	760.9	30.01	762.2	75.1	23.9	66	W	9.0	4.0	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.51	749.4	29.99	761.7	78.2	25.7	34	WNW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.90	759.5	29.94	760.5	77.8	25.4	64	NNW	25.0	11.2	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.91	709.0	29.91	759.8	80.4	26.9	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.27	743.4	30.04	763.1	63.6	17.6	31	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.41	696.3	29.94	760.3	80.7	27.1	36	E	4.0	1.8	.....	.....	1	.....	.....	0	0	Blue sky	
Roorkee	29.10	739.0	30.03	762.8	62.4	16.9	39	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	D. clouds	
Agra	29.45	748.0	30.04	762.9	68.3	20.2	41	N	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Nagpur	28.90	734.0	29.94	760.6	80.6	27.0	39	Calm	2.0	0.9	.....	.....	0	.....	.....	0	0	.....	
Lucknow	29.64	752.8	30.02	762.6	66.4	19.1	29	Calm	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.70	754.3	30.02	762.5	64.5	18.1	51	Calm	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.83	757.7	30.02	762.5	63.4	17.4	67	Calm	0.1	0.04	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.94	709.7	30.01	762.3	65.8	18.8	21	NW	3.7	1.6	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.91	759.8	30.00	761.9	74.8	23.8	42	SSE	0.9	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.98	761.6	30.01	762.2	68.7	20.4	60	WNW	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.58	751.3	29.98	761.4	71.2	21.8	38	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.93	760.3	30.03	762.7	67.0	19.4	92	WSW	6.0	2.7	.....	.....	0	.....	.....	0	0	Blue sky	
Sibsagar	29.65	753.2	30.00	762.0	62.4	16.9	80	NE	1.0	0.5	.....	.....	2	.....	.....	0	0	Misty	
Jubbulpore	28.60	726.4	29.99	761.7	72.8	22.7	49	Calm	2.6	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.83	757.7	30.26	768.5	52.3	11.3	66	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.14	755.5	30.25	768.4	51.1	10 6	77	NE	2.5	1.1	.....	.....	9	S	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.71	754.6	30.25	768.4	47.8	8.8	89	E	.....	.....	1	.....	10	E	.....	0.138	3.5	.....	Prof. Schiaparelli.
Moncalieri	29.34	745.2	30.28	769.2	43.0	6.1	95	E	0	0	.....	.....	10	S	.....	0.843	21.4	.....	Prof. P. F. Denza.
Mondovi	28.29	718.6	30.27	768.8	39.6	4.2	92	W	.....	.....	4	.....	10	.....	.....	1.209	30.7	.....	Prof. D. C. Bruno.
Genoa	30.00	762.1	30.20	767.1	50.9	10.5	76	N	3 8	1.7	.....	.....	10	SE	.....	0.035	0.9	.....	Prof. G. M. Garibaldi.
Florence	29.94	760.4	30.20	767.1	56.3	13.5	75	NE	.....	.....	2	.....	10	.....	S	0	0	.....	Cav. F Meucci
Leghorn	30.06	763.5	30.15	765.7	54.0	12.2	86	ENE	6.9	3.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.20	767.0	30.24	768.2	45.1	7.3	99	NE	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	30.00	761.9	30.17	766.4	57.9	14.4	76	N	1.8	0.8	.....	.....	9	.....	.....	0.295	7.5	.....	Prof. P S. Ferrari.
Lecce	30.01	762.2	30.27	768.8	58.3	14.6	67	SE	5.6	2.5	.....	.....	7	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.86	758.5	30.06	763.4	60.1	15.6	77	SE	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.32	744.6	30.23	767.7	53.8	12.1	77	SW	0	0	.....	.....	9	.....	.....	0.098	2.5	.....	Prof. D. Conti.
Palermo	29.89	759.1	30.14	765.6	57 4	14.1	65	NNE	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.11	764.7	30.18	766.6	57.6	14.2	83	ENE	3.8	1.7	.....	.....	4	NE	.....	0.008	0.2	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.65	753.2	30.21	767 3	57 4	14 1	65	NE	0	0	.....	.....	7	.....	.....	0.559	14.2	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amounts of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.19	766.8	30.21	767.3	32.7	0.4	94	NE	2.5	1.1	.....	.....	10n	.....	.....	0.285	7.24	Raining	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.01	762.2	30.22	767.6	35.8	2.1	93	N	2.8	1.2	.....	.....	0	.....	.....	0.690	17.53	Very clear..	S. Takehayashi.
Tokei (Yeddo) Observatory	30.11	764.8	30.19	766.8	32.8	0.4	96	N	4.0	1.8	.....	.....	10n	.....	.....	0.580	14.73	Snowing	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.7	30.32	770.0	41.9	5.5	54	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. L. Perez
Leon	24.47	621.6	30.15	765.8	50.2	10.1	78	NNW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.19	586.5	30.31	769.8	42.1	5.6	67	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	44.6	7.0	64	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.96	761.0	29.97	761.3	69.8	21.0	95	S	.....	.....	1	0	0	.....	.....	0	0	Hazy	M. M. Cházaro.
San Luis Potosi	24.14	613.1	30.19	766.7	44.0	6.7	65	SW	.....	.....	1	3	0	N	.....	0	0	.....	G. Barroeta, M. D.
Vera-Cruz	29.96	761.1	29.99	761.8	69.8	21.0	91	S	.....	.....	0	.....	4sk	.....	SW	0	0	Very foggy	Prof. J. Rossell.
Zacatecas	22.50	571.4	.....	.....	48.2	9	69	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.5	40.8	4.9	65	N	4.5	2.0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.42	721.8	30.10	764.4	70.9	21.6	66	NE	.....	.....	2	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.91	759.9	30.04	763.2	70.5	21.4	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6219.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands, at Utrecht.

Flushing	30.41	772.3	30.41	772.3	33.8	1.0	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.41	772.4	30.46	773.8	32.0	0.0	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.48	773.0	30.48	773.0	32.4	0.2	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.39	771.8	30.39	771.8	33.6	0.9	96	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.36	771.2	30.41	772.4	33.3	0.7	91	NE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.34	770.7	30.40	772.1	33.8	1.0	81	SSE	13.0	5.8	.....	.....	8	.....	.....	0	0	.....	
Brönö	30.02	762.5	30.06	763.5	35.6	2.0	89	SW	34	15	.....	.....	10	.....	.....	0.925	23.5	Light rain	
Christiania	30.30	769.6	30.46	773.7	51.6	—10.9	86	ESE	.....	.....	.....	.....	0	.....	.....	0	0	Light fog	
Tromsö	29.81	757.2	29.85	758.3	33.4	0.8	92	SW	4	2	.....	.....	10	.....	.....	0.382	9.7	Snowing	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.24	768.1	30.43	773.0	57.6	14.2	84	SE	4.3	1.9	.....	.....	4	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.0	30.06	763.5	52.2	11.2	66	Calm	0	0	.....	.....	3	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.17	766.4	30.26	768.6	63.3	17.4	57	S	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.73	755.1	30.10	764.4	52.7	11.5	57	N	14.1	6.1	.....	.....	3	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.37	771.4	30.44	773.2	60.4	15.8	62	NE	1.3	0.6	.....	.....	3	.....	.....	0.035	0.9	.....	

NOTE.—The originals give the wind-velocity in kilometers per the hour preceding the observations, occasionally the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h., 8 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Bartholomew Dias																			R. A. T. Pinha, Com'd'r
D. Fernando																			A. M. de Sande, Comd't.
India																			A. D. Pedroso, Com'd't.
Mindello																			J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea			29.89	759.3	82.4	28.0	.....	W	.....	.....	1	.....	0	.....	.....	1	W	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro																			I. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Porto de S. Jose de Bissao, Senegambia			29.95	760.7	77.7	25.4	.....	E	.....	.....	2	.....	6	.....	.....	1	E	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, S. 13° 51', E. 12° 05'			29.85	758.1	76.1	24.5	.....	SW	.....	.....	3	.....	4	.....	SW	2	SW	Blue sky	F. Teixeira da Silva, Com'd't.
Sado																			L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China			30.22	767.5	58.6	14.8	.....	NNE	.....	.....	3	.....	0	.....	.....	1	N	D. clouds	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	29.89	759.3	30.35	770.8	24.8	— 4.0	75	SE	7	3	.....	.....	1c	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.99	761.7	30.44	773.2	20.7	— 6.3	70	SSE	11	5	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	30.26	768.5	30.52	775.3	16.3	— 8.7	69	ESE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.63	778.1	30.65	778.5	16.7	— 8.5	67	SE	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.97	761.1	30.68	779.3	3.7	—15.7	90	E	4	2	.....	.....	0	.....	.....	.....	.....	Misty	Physical Cabinet.
Nikolaiev	30.59	776.9	30.66	778.7	10.0	—12.2	77	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.47	774.0	30.49	774.5	20.5	— 6.4	84	ENE	9	4	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.32	770.1	30.95	786.0	2.5	—16.4	95	S	9	4	.....	.....	6s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.41	772.5	30.64	778.2	10.8	—11.8	67	E	31	14	.....	.....	3	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.52	775 3	30.54	775.8	12.9	—10.6	90	S	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.84	732.6	30.32	770.2	37.6	3.1	84	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Observatory
Astrakhan	30.71	780.1	30.63	778.0	12.4	—10.9	83	E	16	7	.....	.....	10n	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	30.43	772.9	30.97	786.6	6.4	—14.2	78	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.67	779.0	30.98	786.9	0.9	—17.3	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.74	755.5	30.84	783.3	— 0.6	—18.1	79	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss																			
Tashkend	28.65	727.6	30.45	773.5	33.1	0.6	85	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Teich, A. M.
Barnaul	29.81	757.1	30.40	772.2	— 5.3	—20.7	85	NW	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	30.11	764.8	30.45	773.5	—20.6	—29.2	82	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.21	767.4	30.35	771.0	20.5	— 6.4	74	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor	29.84	757.8	29.92	760.0	—19.1	—28.4	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.90	759.4	30.01	762.2	54.0	12.2	68	ENE	3.4	1.50	.....	.....	8	.....	.....	0.120	3.05	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.11	764.7	30.17	766.2	50.0	10.0	81	NE	0.4	0.16	.....	.....	10	.....	.....	0.008	0.2	Covered	Prof. Manuel de Nuveran
Burgos, Met. Obs'y	27.10	688.3	.....	.....	37.8	3.2	86	NE	8.3	3.71	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martiny Perez.
Madrid, Royal Observatory	27.78	705.6	.....	.....	48.2	9.0	75	E	8.2	3.68	.....	.....	10	.....	.....	0.008	0.2	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.85	758.3	30.01	762.2	59.4	15.2	78	SE	3.8	1.69	.....	5	4	NE	.....	Inap.	Inap.	Misty	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.20	741.7	30.12	765.1	44.1	6.7	79	NE	1.2	5.3	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.11	764.8	30.17	766.4	68.9	20.5	90	E	2.7	1.2	.....	7c;ck	2k;sk	SW	.....	0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands,	29.87	758.7	29.92	760.1	81.0	27.2	81	NE	0	0	.....	0	0	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.5	30.08	764.0	54.0	12.2	74	NW	20.8	9.3	.....	0	3	.....	NW	0	0	.....	Capt. C. Fujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.01	762.2	30.10	764.5	76.6	24.8	83	E	9.7	4.33	.....	2c	2k	E	E	0	0	Clear	Leonardo de Tejeda, Ch'f. Eng'r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.24	768.0	30.28	769.0	26.2	-- 3.2	.....	S	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	30.31	769.9	30.36	771.2	24.4	— 4.2	91	WNW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	30.36	771.1	30.41	772.4	6.4	—14.2	100	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Stockholm	30.15	765.8	30.33	770.3	28.6	— 1.9	92	N	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	
Wisby	30.19	766.8	30.25	768.3	32.4	0.2	81	N	.....	.....	6	.....	10	.....	.....	0.098	2.5	.....	
Sub-Series.																			
Upsala	30.26	768.6	30.34	770.5	26.8	— 2.9	98	NNW	6.3	2.8	.....	10	.....	.....	.....	0.004	0.11	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala: occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.75	730.3	30.24	768.2	23.4	0.8	100	SSW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.58	725.8	30.30	769.5	30.9	— 0.6	98	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.0 mm.; Thermometer, —1.2 cent.; Relative Humidity, +23 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 476 m., or 1,562 feet.

TURKISH SERIES.

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.45	773.5	40.8	4.9	72	NE	11	5.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.28	769.1	56.7	13.7	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.94	760.5	30.06	763.5	62.2	16.8	70	W	.....	.....	1	.....	10n	.....	W	0.30	7.6	Overcast.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.87	758.7	29.94	760.5	3.5	--15.8	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.60	751.8	29.94	760.5	6	—14.4	.....	Calm	0	0	.....	.....	10s	.....	E	0	0	Cloudy.....	W. R. Bigg.
*Chatham, N. B	29.93	760.2	30.00	762.0	— 6	—21.1	89	SW	6	2.7	.....	2ck	0	NW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.85	758.2	29.89	759.2	— 2	—18.9	100	W	16	7.2	.....	0	0	.....	.....	0.050	1.27	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.72	754.9	29.93	760.2	0.0	—17.8	89	E	.....	.....	1	.....	10s	.....	.....	0	0	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Esquimault, B. C	29.80	756.9	29.84	757.9	36.1	2.3	92	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	H. A. Johnson.
*Father Point, Quebec	30.14	765.5	30.16	766.1	— 2	—18.9	78	W	25	11.2	.....	8k	2s	NW	W	0	0	Cloudy.....	W. H. Bevis.
Fredericton, N. B	30.13	765.3	30.20	767.1	— 5.3	—20.7	77	NW	6	2.7	.....	cs	0	.....	.....	0	0	Cloudy.....	J. McWilliams.
*Fort Garry, Manitoba	28.70	729.0	29.59	751.6	4	—15.6	97	SW	10	4.5	.....	.....	10n	.....	.....	0.02	0.5	Fair	Prof. Harrison.
Granton, Ontario	28.65	727.7	29.76	755.9	39	3.9	.....	E	.....	.....	1	.....	10n	.....	.....	0.280	7.11	Cloudy.....	James Stewart.
*Halifax, N. S	29.82	757.4	29.97	761.2	2	—16.7	81	N W	20	8.9	.....	0	0	.....	.....	0	0	Overcast.....	James Grant.
Hamilton, Ontario	29.46	748.3	29.85	758.2	26.3	— 3.2	86	N	.....	.....	1	10cs	0	Calm	.....	Inap.	Inap.	Clear.	F. Allison, M. A.
Heart's Content, N. F	29.25	742.9	29.27	743.4	12	—11.1	100	NW	.....	.....	2	0	3ks	.....	NW	0.07	1.8	Hazy	Geo. Dickson, M. A.
*Kingston, Ontario	29.52	749.8	29.88	758.9	14	—10.0	84	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Fair.....	E. Weedon.
Little Glace Bay, N. S	29.61	752.1	29.65	753.1	9.5	—12.5	96	NW	16	7.2	.....	7k	0	NW	.....	0	0	Cloudy.....	S. Woods, M. A.
Moose Factory, Ontario	29.44	747.8	29.48	748.8	6.9	—13.9	79	SE	.....	.....	4	.....	10n	.....	.....	0.20	5.1	.....	C. H. Rigby.
*Montreal, Quebec	29.83	757.7	30.06	763.5	0	—17.8	64	SE	20	8.9	.....	.....	10n	.....	.....	0.20	5.1	Cloudy.....	J. R. Nason.
*Parry Sound, Ontario	28.92	734 6	29.65	753 1	21	— 6.1	93	SE	12	5.4	.....	.....	10n	.....	E	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.03	737.3	29.84	757.9	16.6	— 8.6	77	E	.....	.....	.....	.....	10	.....	.....	.....	.....	Overcast.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.13	739.9	29.84	757.9	35	1.7	80	S	13	5.8	.....	.....	10n	.....	.....	0.03	0.8	Threatening	H. Morgan.
Port Hastings, N. S	29.75	755.6	29.80	756.9	3.0	—16.1	.....	NW	9	4.0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.19	741.4	29.86	758.4	35	1.7	73	SW	.....	.....	.....	.....	10n	.....	W	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.90	759.4	30.26	768.6	— 8	—22.2	80	Calm	.....	.....	0	.....	10n	.....	Calm	0	0	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.34	745.2	29.85	758.2	0	—17.8	100	SE	10	4.5	.....	.....	10n	.....	.....	Inap.	Inap	Sleeting ...	W. H. McIntyre.
St. Andrews, N. B	30.14	765.5	30.19	766.8	— 1	—18.3	72	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.97	761.2	30.15	765.8	— 1	—18.3	100	NW	13	5.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	28.93	734.8	29.64	752.8	41	5.0	81	S	20	8.9	.....	.....	10s	.....	.....	0	0	Cloudy..	K. Stewart.
Stayner, Ontario	28.86	733.0	29.65	753.1	39	3.9	86	SE	6	2.7	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.46	722 9	29.77	756,1	35.3	1.8	85	SW	.....	.....	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.62	752.3	29.66	753.4	11	—11.7	100	W	12	5.4	.....	.....	10n	.....	.....	0.02	0.5	Light snow.	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.80	756.9	30	— 1.1	80	S	12	5.4	.....	.....	10s	.....	W	0.070	1.78	Cloudy	Magnetic Observatory.
Windsor, N. S	29.93	760.2	30.03	762.8	2.5	—16.4	86	N	8	3.6	.....	4cs	0	.....	.....	0	0	Fine.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	12.0	—11.1	80	SW	.....	.....	.....	2c	1s	.....	.....	0.10	2.5	Fine.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.96	761.0	30.22	767.6	7	—13.9	77	S	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Alpena, Michigan	28.89	733.8	29.53	750.0	35	1.7	80	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.10	739.1	30.28	769.1	47	8.3	62	E	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.33	770.4	30.34	770.6	30	— 1.1	68	S	9	4.0	.....	0	5s	.....	Calm	0	0	Fair	
Augusta, Georgia	30.16	766.1	30.34	770.6	49	9.4	57	Calm	0	0	.....	0	5s	.....	SW	0	0	Fair	
Baltimore, Maryland	30.26	768.6	30.32	770.1	29	— 1.7	78	E	5	2.2	.....	2c	2s	NW	Calm	0	0	Fair	
Barnegat, New Jersey	30.29	769.4	30.31	769.9	28	— 2.2	77	SW	20	8.9	.....	8k	0	W	.....	0	0	Fair	
Bismarck, Dakota	27.90	708.6	29.76	755.9	19	— 7.2	84	W	18	8.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boerne, Texas	28.46	722.9	29.75	755.6	60	15.6	100	SE	4	1.8	.....	.....	10s	.....	Calm	0.61	15.5	Cloudy	
Boise City, Idaho	26.68	685.3	29.94	760.5	30	— 1.1	89	W	2	0.9	.....	.....	10n	.....	Calm	0.27	6.9	Light snow.	
Boston, Massachusetts	30.16	766.1	30.34	770.6	11.5	—11.4	60	S	3	1.3	.....	5ck	5s	NW	NW	0	0	Cloudy	
Brackettville, Texas	28.80	731.5	29.82	757.4	58	14.4	94	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	28.72	729.5	29.75	755.6	21	— 6.1	86	W	16	7.2	.....	0	8ks	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.85	758.2	29.92	760.0	67	19.4	95	S	8	3.6	.....	.....	10ks	.....	S	0	0	Cloudy	
Buffalo, New York	29.10	739.1	29.80	756.9	39.5	4.2	73	S	11	4.9	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	44	6.7	37	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.81	757.2	30.13	765.3	65	18.3	65	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Cairo, Illinois	29.56	750.8	29.95	760.7	59	15.0	76	S	9	4.0	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.10	637.5	29.90	759.4	45	7.2	61	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	30	— 1.1	47	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.39	695.7	29.96	761.0	40	4.4	91	SW	4	1.8	.....	.....	10s	.....	SW	0.09	2.3	Cloudy	
Cape Hatteras, N. Carolina	30.44	773.2	30.44	773.2	40	4.4	82	NE	10	4.5	.....	5cs	0	NW	.....	0	0	Fair	
Cape Henry, Virginia	30.39	771.9	30.41	772.4	34	1.1	70	S	5	2.2	.....	5cs	0	SW	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.40	772.1	30.41	772.4	46	7.8	92	E	8	3.6	.....	10cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.33	770.4	30.36	771.1	31	— 0.6	79	S	23	10.3	.....	2c	0	W	.....	0	0	Fair	
Castroville, Texas	29.13	739.9	29.82	757.4	62	16.7	94	S	4	1.8	.....	.....	10s	.....	.....	0.04	1.0	Cloudy	
Charleston, South Carolina	30.32	770.1	30.38	771.6	51	10.6	86	E	8	3.6	.....	2c	5s	W	Calm	0	0	Fair	
Cheyenne, Wyoming	23.81	604.8	29.75	755.6	22	— 5.6	72	N	4	1.8	.....	0	5s	.....	W	0.02	0.5	Fair	
Chicago, Illinois	29.03	737.3	29.72	754.9	44	6.7	92	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.36	745.7	30.01	762.2	48	8.9	56	SE	5	2.2	.....	.....	9s	.....	W	0	0	Cloudy	
Cleveland, Ohio	29.17	740.9	29.89	759.2	46	7.8	69	SE	24	10.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
Coleman City, Texas	28.04	712.2	29.69	754.1	51	10.6	93	SW	12	5.4	.....	2ck	Sm'e	Calm	SW	0	0	Cloudy	
Columbus, Ohio	29.14	740.1	29.98	761.5	43	6.1	58	S	7	3.1	.....	8ck	Sm'e	S	.....	0	0	Smoky	
Corpus, Texas	28.07	713.0	29.75	755.6	51	10.6	77	SW	2	0.9	.....	5k	0	SW	Calm	0	0	Cloudy	
Corsicana, Texas	29.38	746.2	29.84	757.9	64	17.8	94	S	14	6.3	.....	Haze	5s	Calm	.....	0	0	Fair	
Davenport, Iowa	29.08	738.6	29.71	754.6	43	6.1	83	W	3	1.3	.....	.....	10n	.....	S	1.48	37.6	F ir	
Deadwood, Dakota	25.16	639.0	.....	.....	19	— 7.2	85	Calm	0	0	.....	0	0	.....	Calm	0.15	3.8	Light rain	
Decatur, Texas	28.63	727.2	29.79	756.7	57	13.9	94	SW	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Denison, Texas	29.00	736.6	29.77	756.1	60	15.6	94	S	11	4.9	.....	.....	10s	.....	.....	0	0	Clear	
Denver, Colorado	24.58	624.3	29.80	756.9	32	0.0	50	NE	4	1.8	.....	2ck	8s	Calm	Calm	0.03	0.8	Cloudy	
Des Moines, Iowa	28.85	732.8	29.73	755.1	39	3.9	82	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.08	738.6	29.75	755.6	43	6.1	83	SW	12	5.4	.....	.....	10n	.....	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.11	688.6	29.39	746.5	38	3.3	91	N	24	10.7	.....	.....	10ks	.....	Calm	0.01	0.3	Light rain	
Dubuque, Iowa	29.05	737.9	29.75	755.6	40	4.4	65	NW	4	1.8	.....	.....	10ks	.....	N	0	0	Cloudy	
Duluth, Minnesota	28.89	733.8	29.57	751.1	29	— 1.7	89	SW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Eagle Pass, Texas	29.09	738.9	29.84	757.9	49	9.4	93	SE	.....	.....	1	0	5s	.....	SW	0.06	1.5	Cloudy	
Eastport, Maine	30.14	765.5	30.22	767.6	— 1	—18.3	68	W	14	6.3	.....	8ck	0	W	SW	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	95	S	.....	.....	6	.....	10s	.....	SE	0	0	Fair	
El Paso, Texas	26.13	663.7	.....	.....	58	14.4	42	W	5	2.2	.....	0	0	.....	.....	0	0	Cloudy	
Erie, Pennsylvania	29.12	739.6	29.84	757.9	45	7.2	61	S	24	10.7	.....	.....	10s	.....	.....	0	0	Clear	
Escanaba, Michigan	28.80	731.5	29.45	748.0	36	2.2	90	SW	12	5.4	.....	.....	10s	.....	W	0.09	2.3	Cloudy	
Florence, Arizona	28 41	721.6	30.01	762.2	38	3.3	72	W	.....	.....	2	0	0	.....	SW	0.05	1.3	Cloudy	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.33	643.4	29.39	746.5	48	8.9	22	SW	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	25.12	638.0	30.08	764.0	39	3.9	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Graham, Texas	29.18	741.2	29.70	754.4	58	14.4	82	S	12	5.4	.....	2k	2s	S	S	0	0	Fair	
Fort Keogh, Montana	28.51	724.1	29.77	756.1	52	11.1	86	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Fort McKavett, Texas	27.26	692.4	.....	.....	11	—11.7	.....	Calm	0	0	.....	0	0	.....	Calm	0.09	2.3	Clear	
Fort St. Michael, Alaska	27.66	702.6	29.58	751.3	50	10.0	79	SW	4	1.8	.....	5k	0	NE	.....	0	0	Fair	
Fort Sill, Indian Territory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Stevenson, Dakota	28.51	724.1	29.59	751.6	54	12.2	87	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fredericksburg, Texas	27.90	708.6	.....	.....	10	—12.2	100	NW	.....	.....	4	0	0	.....	.....	0.10	2.5	Clear	
Galveston, Texas	28.21	716.5	29.74	755.4	61	16.1	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Graham, Texas	29.94	760.5	29.99	761.7	61	16.1	100	SE	8	3.6	.....	.....	Fog	.....	SE	Inap.	Inap.	Foggy	
Grand Haven, Michigan	28.71	729.2	29.75	755.6	52	11.1	93	S	4	1.8	.....	0	8s	.....	SW	0	0	Cloudy	
Indianapolis, Indiana	29.02	737.1	29.66	753.4	42	5.6	74	SW	21	9.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Indianola, Texas	29.10	739.1	29.86	758.4	55	12.8	74	SW	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Jacksboro, Texas	29.93	760.2	29.96	761.0	65	18.3	94	S	8	3.6	.....	.....	10s	.....	S	0.06	1.5	Threatening	
Jacksonville, Florida	28.62	726.9	29.73	755.1	54	12.2	93	SW	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	30.26	768.6	30.29	769.4	56	13.3	87	Calm	0	0	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Key West, Florida	29.07	738.4	29.67	753.6	48	8.9	93	SW	7	3.1	.....	.....	10s	.....	SW	0.02	0.5	Threatening	
Kittyhawk North Carolina	30.18	766.6	30.21	767.3	69	20.6	90	NE	10	4.5	.....	9c;k	1s	Calm;E	Calm	0	0	Cloudy	
Knoxville, Tennessee	30.39	771.9	30.42	772.6	37	2.8	81	NE	13	5.8	.....	5c	0	N	.....	0	0	Fair	
La Crosse, Wisconsin	29.19	741.4	30.24	768.1	41.5	5.3	74	E	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
La Mesilla, New Mexico	28.91	734.3	29.64	752.8	39	3.9	64	W	4	1.8	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Laredo, Texas	25.97	659.6	30.12	765.0	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.47	748.5	29.80	756.9	65	18.3	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Los Angeles, California	28.81	731.8	29.63	752.6	53	11.7	93	S	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Louisville, Kentucky	29.65	753.1	30.00	762.0	47.2	8.4	85	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.43	747.5	29.99	761.7	55	12.8	56	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Madison, Wisconsin	29.62	752.3	30.34	770.6	32	0.0	69	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Marquette, Michigan	28.65	727.7	29.62	752.3	43	6.1	83	SW	13	5.8	.....	.....	Fog	.....	Calm	0	0	Cloudy	
Mason, Texas	28.68	728.5	29.36	745.7	43	6.1	75	N	4	1.8	.....	.....	10ks	.....	N	0.15	3.8	Cloudy	
Memphis, Tennessee	28.24	717.3	30.00	762.2	51	10.6	93	W	2	0.9	.....	5k	0	W	.....	0	0	Fair	
Milwaukee, Wisconsin	29.68	753.9	29.99	761.7	58	14.4	100	S	6	2.7	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Mobile, Alabama	28.90	734.0	29.62	752.3	46	7.8	84	SW	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	30.12	765.0	30.17	766.3	57	13.9	94	S	6	2.7	.....	2k	8s	SW	SW	0	0	Cloudy	
Morgantown, West Virginia	29.97	761.2	30.21	767.3	55	12.8	87	SE	8	3.6	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	
Mt. Washington, N. H.	29.02	737.1	30.09	764.3	44	6.7	60	S	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Nashville, Tennessee	23.52	597.4	29.88	758.9	2	—16.7	72	NW	54	24.1	.....	10s	0	Calm	.....	0	0	Cloudy	
New Haven, Connecticut	29.53	750.0	30.06	763.5	55	12.8	81	SE	4	1.8	.....	.....	10n	.....	E	Inap.	Inap.	Light rain	
New London, Connecticut	30.22	767.6	30.34	770.6	16	— 8.9	83	Calm	0	0	.....	.....	10s;hz	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	30.22	767.6	30.27	768.8	17	— 8.3	63	E	2	0.9	.....	1ck	3s	W	W	0	0	Fair	
Newport, Rhode Island	30.00	762.0	30.06	763.5	65	18.3	84	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.30	769.6	30.36	771.1	16	— 8.9	49	SE	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	
Norfolk, Virginia	30.16	766.1	30.35	770.9	28	— 5.6	73	SW	5	2.2	.....	5cs	5s	W	Calm	0	0	Cloudy	
	30.34	770.6	30.40	772.1	31	— 0.6	79	S	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature.		Barometer: Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
	nches.	ill meters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	—10	—10.	—10.	From—	From—	nches.	Millimeters.		
North Platte, Nebraska	26.91	683.5	29.54	750.3	30	— 1.1	78	NW	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Olympia, Washington Ter.	29.87	758.7	29.91	759.7	32.0	0.0	79	S	4	1.8	.....	0	5s	.....	Calm	0.01	0.3	Fair	
Omaha, Nebraska	28.59	726.2	29.69	754.1	39	3.9	73	N	12	5.4	.....	10k	0	W	.....	0	0	Cloudy	
Oswego, New York	29.58	751.3	29.91	759.7	26	— 3.3	88	SE	18	8.0	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Pembina, Dakota	28.70	729.0	29.57	751.1	15	— 9.4	100	NW	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Philadelphia, Pa	30.31	769.9	30.36	771.1	28	— 2.2	77	S	10	4.5	.....	.....	10ks	.....	S	0	0	Cloudy	
Phœnix, Arizona	28.75	730.2	30.00	777.2	42	5.6	50	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.52	444.5	29.73	755.1	5	—15.0	100	SW	16	7.2	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Pioche, Nevada	23.74	603.0	29.51	749.5	25	— 3.9	62	S	12	5.4	.....	0	2s	.....	SW	0	0	Fair	
Pittsburg, Pennsylvania	29.21	741.9	30.03	762.8	45	7.2	46	S	8	3.6	.....	10k	0	W	.....	0	0	Cloudy	
Port Huron, Michigan	29.04	737.6	29.71	754.6	40	4.4	91	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.25	768.3	30.30	769.6	5	—15.0	75	Calm	0	0	.....	8k	0	Calm	.....	0	0	Cloudy	
Portland, Oregon	29.91	759.7	30.01	762.2	35.0	1.7	90	E	4	1.8	.....	0	9s	.....	.....	Inap.	Inap.	Cloudy	
Prescott, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Pilot Point, Texas	29.15	740.4	30.00	762.0	48	8.9	77	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.24	768.1	30.26	768.6	61	16.1	88	NE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.63	752.6	30.01	762.2	32	0.0	79	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	66	18.9	89	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.17	740.9	29.79	756.7	39	3.9	91	SW	17	7.6	.....	.....	10n	.....	W	Inap.	Inap	Light rain	
Roseburg, Oregon	29.47	748.5	30.07	763.8	28.0	— 2.2	100	E	2	0.9	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Sacramento, California	29.90	759.4	29.98	761.5	39	3.9	84	W	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	
St. Louis, Missouri	29.25	742.9	29.81	757.2	46	13.3	81	S	14	6.3	.....	.....	10ks;s	.....	SW;Calm	0.04	1.0	Cloudy	
St. Marks, Florida	30.24	768.1	30.26	768.6	55	12.8	93	NE	5	2.2	.....	1c	2s	SW	Calm	0	0	Fair	
St. Paul, Minnesota	28.81	731.8	29.65	753.1	30	— 1.1	78	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.38	644.6	29.71	754.6	33	0.6	61	S	4	1.8	.....	0	7s	.....	SW	0	0	Fair	
San Antonio, Texas	29.20	741.7	29.77	756.1	64	17.8	94	Calm	0	0	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
San Diego, California	29.96	761.0	30.04	763.0	44.5	6.9	92	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.19	741.4	29.86	758.4	45	7.2	68	SW	20	8.9	.....	5cs;k	5s	Calm;sW	SW	0.05	1.3	Cloudy	
Sandy Hook, New Jersey	30.31	769.9	30.34	770.6	24	— 4.4	74	SW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
San Francisco, California	29.92	760.0	29.99	761.7	44	6.7	68	NW	3	1.3	.....	0	0	.....	.....	0.05	1.3	Clear	
Santa Fé, New Mexico	23.07	586.0	29.61	752.1	30	— 1.1	57	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.23	767.8	30.33	770.4	48	8.9	93	E	4	1.8	.....	5c	Fog	W	Calm	0	0	Fair	
Shreveport, Louisiana	29.70	754.4	29.92	760.0	59	15.0	94	Calm	0	0	.....	.....	10s	.....	SE	1.35	34.3	Cloudy	
Silver City, New Mexico	24.16	613.6	30.38	771.6	40	4.4	73	NW	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.36	771.1	30.40	772.1	47	8.3	92	SE	13	5.8	.....	8cs	Haze	Calm	Calm	0	0	Cloudy	
Springfield, Massachusetts	30.18	766.6	30.33	770.4	12	—11.1	61	S	8	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Stockton, Texas	26.84	681.7	29.84	757.9	51	10.6	46	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	30.24	768.1	30.30	769.6	21	— 6.1	71	SW	5	2.2	.....	10cs	0	NW	.....	0	0	Cloudy	
Toledo, Ohio	29.12	739.6	29.80	756.9	45	7.2	84	SW	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Tucson, Arizona	.....	.....	.....	.....	36	2.2	52	S	4	1.8	.....	2c	2s	Calm	S	0	0	Fair	
Tybee Island, Georgia	30.30	769.6	30.33	770.4	51	10.6	93	E	11	4.9	.....	8cs	0	W	.....	0	0	Cloudy	
Umatilla, Oregon	29.64	752.8	30.15	765.8	32.0	0.0	89	E	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	33	0.6	80	S	.....	.....	2	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.03	737.3	29.81	757.9	59	15.0	88	E	2	0.9	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Vicksburg, Mississippi	29.76	755.9	30.02	762.5	64	17.8	89	S	9	4.0	.....	.....	10s	.....	S	Inap.	Inap.	Threatening	
Virginia City, Montana	23.97	608.8	29.45	748.0	10	—12.2	58	Calm	0	0	.....	0	0	.....	.....	0.26	6.6	Clear	
Visalia, California	29.60	751.8	29.98	761.5	43.3	6.3	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	30.17	766.3	30.29	769.4	30	— 1.1	68	S	12	5.4	.....	8ck	0	NW	.....	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	58	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.29	769.4	30.38	771.6	45	7.2	84	E	10	4.5	.....	5c	0	W	.....	0	0	Fair	
Winnemucca, Nevada	25.44	646.2	29.80	756.9	23	— 5.0	86	S	7	3.1	.....	0	8s	.....	Calm	0.14	3.6	Cloudy	
Wood's Holl, Mass	30.32	770.1	30.36	771.1	18	7.8	52	W	2	0.9	.....	0	2s	.....	.....	0	0	Clear	
Yankton, Dakota	28.53	724.6	29.84	757.9	34	1.1	79	NW	9	4.0	.....	0	8s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.78	756.4	29.95	760.7	47	8.3	34	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.26	717.8	29.63	752.6	56	13.3	87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I	30.14	765.5	30.19	766.8	71	21.7	79	NE	4.2	1.9	.....	8c	0	SW	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.19	766.8	30.20	767.1	75	23.9	81	Calm	0	0	.....	2c	2s	Calm	.....	0	0	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.97	761.2	30.05	763.3	79	26.1	.....	NE	10.3	4.6	.....	.....	.....	.....	.....	0.02	0.5	Partly cl'dy.	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	80	26.7	87	E	.....	.....	2	.....	8ks	.....	E	2.070	52.58	Cloudy	C. J. Herfing.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	York Gellich.
York Factory, B. A	30.38	771.6	30.43	772.9	—36.0	—37.8	.....	NW	13	5.8	.....	5c	.....	N	.....	0	0	Fair	J. Fortescue W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 553.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,696 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Poise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.. Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.89	759.2	42	5.6	43	6.1	75	SE	6	2.7	.....	.....	5	.....	SE	0	0	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	30.00	762.6	60	15.6	60	15.6	88	E	15	6.7	.....	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.30	769.6	54	12.2	10	—12.2	79	SW	6	2.7	.....	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan.....*	30.21‡	767.3‡	.....	.....	33.2	0.7	89	N	.....	.....	4	.....	10n	.....	.....	Inap.	Inap	.....	.....	Snowing.....	
Alaska, N. 12° 15', W. 87° 14'....	30.06	763.5	80	26.7	76	24.4	73	ENE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Hazy	
Alliance, Smyrna, Turkey.....	30.24‡	768.1‡	.....	.....	50	10.0	45	NNE	.....	.....	2–3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ashuelot. Saigon, Cochin-China. ...	30.01	762.2	82	27.8	81	27 2	83	Calm	.....	.....	0	.....	10	.....	E	.....	.....	.....	.....	Light rain....	
Canonicus, New Orleans, La.....	30.05	763.3	47	8.3	64	17.8	100	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Foggy	
Colorado. New York, N. Y.....	30.28	779.1	20	— 6.7	23	— 5.0	86	SSE	10	4.5	.....	.....	10	.....	W	0	0	.....	.....	Cloudy	
Constitution, Portsmouth, England....	30.31‡	769.6‡	.....	.....	38	3.3	100	ENE	9	4.0	.....	.....	10	.....	Calm	.....	.....	.....	.....	Overcast.....	
Despatch, Constantinople, Turkey	30.50‡	774.7‡	.....	.....	45	7.2	84	NE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Essex, S. 47° 32', W. 62° 19'.....	29.19	741.4	56	13.3	56	13.3	75	SSW	.....	.....	7	.....	10	.....	SSW	.....	.....	Rough	S	Overcast.....	
Franklin, Norfolk, Va.....	30.59	777.0	69	20.6	40	4.4	64	S	1	0.4	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Gettysburg, Genoa, Italy	30.10‡	764.5‡	.....	.....	54	12.2	80	NNE	.....	.....	2	.....	10	.....	.....	0.8	20.	.....	.....	Showery	
Hartford, Montevideo, Uruguay...	29.74‡	755.4‡	74	23.3	70	21.1	66	WSW	21.6	9.7	.....	.....	0	.....	.....	0	0	Long	WSW	Clear.....	
Lackawana, Panama.....*	29.72‡	754.9‡	.....	.....	77	25.0	86	NNW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.....	29.98†	761.5†	.....	.....	32	0.0	90	S	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Light rain...	
Monocacy, Nagasaki, Japan.....*	30.18‡	766.6‡	.....	.....	39	3.9	82	NNW	.....	.....	1	.....	8	.....	NNW	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*..	30.14‡	765.5‡	.....	.....	30	— 1.1	??	NNW	.....	.....	2–3	.....	10	.....	N	.....	.....	.....	.....	Rain & snow	
New Hampshire, Port Royal, S. C.....	30.46†	773.7†	.....	.....	51	10.6	93	NE	10	4.5	.....	.....	2	.....	SW	0	0	.....	.....	Fair	
Onward, Callao, Peru.....	30.00†	762.0†	.....	.....	69	20.6	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.33	770.4	29	— 1.7	18	— 7.8	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	31	— 0.6	89	SW	.....	.....	3	.....	2	.....	E	.....	.....	.....	.....	Clear.....	
Pensacola, N. 4° 28', W. 80° 40'.....	29.89‡	759.2‡	.....	.....	79	26.1	100	S	.....	.....	.....	.....	2	.....	S	0	0	Smooth	NW	Fair	
Powhatan, Norfolk, Va.....	30.37	771.4	36	2.2	36	2.2	81	S	7.2	3.2	.....	.....	5	.....	WSW	0	0	.....	.....	Fair.....	
Quinnebaug, N. 36° 09', W. 26° 32'.....	30.45‡	773.4‡	.....	.....	61	16.1	71	ENE	.....	.....	2	.....	8	.....	E	.....	.....	Smooth	.....	Cloudy.....	
Ranger. Yokohama, Japan.....*	30.20‡	767.1†	.....	.....	39	3.9	82	NNW	.....	.....	4	.....	10	.....	Calm	.....	.....	Smooth	.....	Snowing.....	
Richmond, N. 35° 53', W. 28° 25'.....	30.47‡	773.9‡	.....	.....	63	17.2	72	NE	.....	.....	0–1	.....	5	.....	.....	.....	.....	Long	NNW	Clear.....	
Rio Bravo, Brownsville, Texas.....	29.90	759.4	69	20.6	68	20.0	95	SE	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.....	30.28‡	769.1‡	.....	.....	31	— 0.6	.....	SSW	.....	.....	2	.....	5?	.....	.....	0	0	.....	.....	Cloudy?.....	
St. Louis, League Island, Pa.....	30.20	767.1	53	11.7	25	— 3.9	.....	SW	10	4.5	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy.....	
Supply, Off Funchal, Madeira ...	30.28‡	769.1‡	.....	.....	66	18.9	74	W	.....	.....	0–1	.....	2	.....	W	.....	.....	Smooth	.....	Clear	
Trenton Villafranca, France *...	30.13‡	765.3‡	.....	.....	60	15.6	76	NE	.....	.....	0–1	.....	10	.....	Calm	0.4	10.	.....	.....	Overcast.....	
Tuscarora. N. 8° 39', W. 84° 50'.....	29.87‡	758.7‡	.....	.....	80	26.7	82	NW	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Wabash. Boston, Mass.....	30.45‡	773.4‡	.....	.....	13	—10.6	81	SW	1	0 4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Wyoming, N. 37° 23', E. 18° 09'.....	30.38	771.6	65	18.3	59	15.0	94	SE	.....	.....	2–3	.....	8	.....	SE	.....	.....	Mod'ate	SE	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; correction applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Granada																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.03	762.8				SSE			3		10		S				Raining	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 33° 08′, W. 144° 59′		30.28	769.1	62	16.7	88	N			4		ks		NE		Mod'ate	NW	Showery	J. A. Thompson, 2d Off
S. S. Gaelic, N. 39° 54′, W. 131° 10′		30.02†	762.5†	50	10.0	??	NNW			5		k		NW	0	Swell	NW	Squally	Capt. W. H. Ridley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 51° 20′, W. 8° 45′		30.38*	771.6*	49	9.4	93	NW			4		4		N	0	Mod'ate	NW		Captain Sargent.
S. S. Ohio, N. 40° 25′, W. 69° 00′		29.92†	760.0†	44	6.7	92	SW			3		5		SW	0	Smooth		Cloudy?	Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 32° 42′, W. 29° 03′		30.11*	764.8*	47	8.3		SSE			7		10		S	0	Mod'ate	S	Overcast	Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the cooperation of the Observer named.																			
Schooner Addie Fuller, N. 38° 16′, W. 73° 21′		30.43	772.9	40	4.4	73	SSW	4	1.8			5k		SW	0	Swell	NW	D. clouds	Capt. James Jorgensen.

NOTE —The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 28, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the cooperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—1.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.20	767.1	58.1	14.5	79	W	.....	.....	1	.....	1	.....	.....	0	0	Very fair	
Nemours	.....	.....	30.01	762.3	59.0	15.0	72	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.99	761.8	58.6	14.8	74	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.06	763.6	62.6	17.0	73	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.06	763.4	59.9	15.5	81	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	Jacques.
Sfax	.....	.....	30.07	763.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.97	761.3	53.6	12.0	46	SW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.12	765.1	53.2	11.8	65	W	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	29.99	761.7	48.9	9.4	97	S	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.11	764.8	58.6	14.8	46	SE	.....	.....	2	.....	2	.....	.....	0.121	3.08	Fair	Bertrand.
Biskra	.....	.....	30.05	763.3	67.1	19.5	38	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.70	754.4	30.28	769.1	33.1	0.6	89	NE	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.55	750.5	30.37	771.3	28.2	— 2.1	94	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.40	746.8	30.34	770.7	28.0	— 2.2	89	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.97	735.7	30.28	769.2	32.4	0.2	96	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.82	732.1	30.35	771.0	26.2	— 3.2	91	SSE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmûnster	28.79	731.2	30.21	767.3	28.6	— 1.9	96	ENE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.27	743.5	30.33	770.4	24.3	— 4.3	95	SE	.....	.....	1	.....	7	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.05	763.3	30.17	766.3	50.4	10.2	90	ESE	.....	.....	2	.....	10	.....	.....	0.126	3.2	.....	I.R.Hydrographic Office.
Szathmar	29.88	759.0	30.38	771.6	29.5	— 1.4	86	N	.....	.....	1	.....	4	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	30.03	762.8	30.33	770.4	32.0	0.0	85	S	.....	.....	1	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.08	764.1	30.19	766.7	52.0	11.1	86	Calm	.....	.....	0	.....	4	.....	.....	0.264	6.7	Raining	P. Busin.
Vienna	29.55	750.6	30.32	770.1	27.3	— 2.6	100	Calm	.....	.....	0	.....	10	.....	.....	0.012	0.3	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmûnster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the cooperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.22	767.6	30.32	770.1	37.8	3.2	.....	WNW	19	8.5	.....	.....	7	.....	.....	0.130	3.30	D. clouds.....	W. Boswell.
Ardrossan	30.33	770.4	30.35	770.9	41	5.0	.....	NNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	William McNeil.
Armagh, Observatory	.....	.....	30.43	772.9	38.7	3.7	.....	NW	3	1.3	.....	.....	7	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.38	771.6	33.2	0.7	.....	N	1	0.4	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.34	770.6	32.0	0.0	.....	E	6	2.7	.....	.....	6	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Bradford, Yorkshire	29.95	760.7	30.34	770.6	30.7	— 0.7	.....	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	79.0	26.1	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	Gloomy.....	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	30.34	770.6	34.0	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [O.
Cardington	.....	.....	30.41	772.4	33.0	0.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.19	766.8	30.33	770.4	32.2	0.1	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Daly, R. E.
Dartmoor	28.74	730.0	30.29	769.4	29.0	— 1.7	.....	E	.....	.....	4	.....	6	.....	.....	.....	.....	Squally.....	Alexander Watt.
Donaghadee	30.34	770.6	30.38	771 6	41	5.0	.....	NE	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.26	768.6	30.28	769.1	34	1.1	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	J. Costello.
Falmouth, Observatory	30.08	764.0	30.32	770.1	34.0	1.1	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy.....	The Staff.
Fort Napier, (Natal)	27.39	695.7	29.71	754.6	69.6	20.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	89	20.6	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.39	771.9	43	6.1	.....	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.93	760.2	29.98	761.5	55.4	13.0	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Drizzling.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.15	765.8	30.35	770.9	38.5	3.6	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.34	770.6	30.35	770.9	33	0.6	.....	ENE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	G. T. Watson.
Greenwich, Royal Obs'y	30.15	765.8	30.33	770.4	31.9	— 0.1	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	30.03	762.8	30.26	768.6	38.5	3.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	Dr. S. E. Hoskins, F.R.S
Helston	30.23	767.8	30.35	770.9	36	2.2	.....	NE	.....	.....	2	.....	10k	.....	.....	0	0	Overcast.....	M. P. Moyle.
Holyhead	30.30	769.6	30.35	770.9	38	3.3	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.95	760.7	30.26	768.6	36.5	2.5	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	30.30	769.6	30.34	770.6	33.0	0.6	.....	NE	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
Leicester, Museum	30.09	764.3	30.36	771.1	31.3	— 0.1	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.06	763.5	30.14	765.5	63	17.2	.....	SE	.....	.....	1	.....	4ck	.....	.....	.....	.....	D. clouds.....	Sergt. Beckett, A. H. C.
Nairn	30.25	768.3	30.35	770.9	38	3.3	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	⅜ clouded..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.28	769.1	72.0	22.2	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.18	766.6	30.38	771.6	33.1	0.6	.....	NNE	.....	.....	2	.....	10n	.....	.....	.....	.....	Snowing.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.81	757.2	30.36	771.1	32.2	0.1	.....	NNE	.....	.....	0-1	.....	10	.....	.....	.....	.....	Snowing.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.35	770.9	32	0.0	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	30.24	768.1	30.32	770.1	33.9	1.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	30.35	770.9	30.39	771.9	39	3.9	.....	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	30.18	766.6	30.36	771.1	34	1.1	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	30.36	771.1	40.6	4.8	.....	N	21	9.4	.....	.....	4	.....	.....	.....	.....	D. clouds.. ..	Rev.C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.37	771.4	44.2	6.8	.....	ENE	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds....	W. H. Lyne.
Sheffield	30.08	764.0	30.38	771.6	34.6	1.4	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	Misty.....	W. F Cooper.
Silloth Rectory	30.33	770.4	30.36	771.1	28.0	— 2.2	86	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast.....	Francis Redford, A. M.
Stonyhurst Observatory	29.95	760.7	30.36	771.1	26.5	— 3.1	.....	NNE?	.....	.....	0?	.....	7	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Stratfield Turgiss	30.13	765.3	30.36	771.1	32.5	0.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev.C.H.Griffith, F.M.S
Thurso	30.27	768.8	30.33	770.4	43	6.1	.....	NNW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	30.29	769.4	36	2.2	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	30.40	772.1	30.42	772.6	43.0	6.1	.....	NNE	22	9.8	.....	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.76	755.9	68	20.0	88	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....
Leith, Restalrig Park	.....	.....	30.39	771.9	38.8	3.8	.....	W	.....	.....	2	.....	.....	.....	.....	0.03	0.8	Fine.....	FrancisAbbott, F.R.A.S.
Mauritius, Observatory	29.75	755.6	29.93	760.3	81.1	27.3	69	E	18.5	8.3	.....	0	5	.....	ESE	0.01	0.3	Squally.....	Andrew Gibb.
Melbourne, Observatory	29.75	755.6	29.84	757.9	72.0	22.2	74	WSW	3	1.3	.....	0	0	.....	.....	0	0	Fine.....	C. Meldrum.
Monach L't-house, (Hebrides)	.....	.....	30.43	772.9	45	7.2	.....	N	.....	.....	6	5	5	N	.....	0	0	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	30.38	771.6	42	5.6	.....	NE	.....	.....	3	4	3	NE	.....	0	0	.....	J. Youngclause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	63.0	17.2	85	SE	.....	.....	3	.....	1s;cs;k	.....	E	0	0	Fair	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.39	771.9	30.44	773.1	23.2	— 4.9	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.39	771.9	30.41	772.4	25.2	— 3.8	93	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.13	739.9	29.17	741.0	30.7	— 0.7	.....	S	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.52	775.2	30.56	776.1	37.4	3.0	85	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Vestervig	30.22	767.6	30.39	771.9	29.5	— 1.4	66	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.69	754.1	30.24	768.1	32.4	0.2	93	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.17	766.4	30.29	769.4	34.2	1.2	88	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.02	762.6	30.10	764.6	49.1	9.5	81	N	.....	.....	1	.....	10	.....	.....	0.04	1.	Rainy	M. Giraud, Director.
Bar-sur-Seine	29.62	752.4	30.22	767.5	33.6	0.9	85	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.95	760.8	30.25	768.4	34.0	1.1	88	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frer Eugene Marie, Dir.
Besançon, Normal School	29.29	744.0	30.23	767.9	36.5	2.5	88	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.32	744.7	30.23	767 9	35.6	2	89	NW	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.91	759.6	30.15	765.8	41.4	5.2	81	NE	.....	.....	3	.....	10	.....	NE	0.010	0.25	Misty	M.de Rermaur, Director
Carcassonne, Normal School	29.65	753.0	30.07	763.8	46.8	8.2	92	NE	.....	.....	1	.....	2	E	SE	0.667	17.2	Slightly cl'dy	September, Director.
Caen, Normal School	30.13	765.4	30.21	767.3	34.9	1.6	78	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.58	751.4	30.18	766.5	31.6	— 0.2	76	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.3	30.23	767.8	33.4	0.8	88	E	.....	.....	1	.....	10	.....	.....	0.244	6.2	Covered	T. Leloup, Director
Clermont-Fd., Puy de D. Obs	28.73	729.8	30.14	765.5	38.5	3.6	97	N	.....	.....	1	.....	10	.....	.....	0.024	0.6	Covered	Alluard, Director.
Commercy, Normal School	29.33	745.0	30.23	767.9	31.8	— 0.1	93	NE	.....	.....	2	.....	.....	.....	.....	0	0	Misty	Dr. Coulet, Director
Commune de Gréasque *	28.99	736.4	30.13	765.4	46.8	8.2	83	NE	.....	.....	2	.....	8	.....	E	0 051	1.3	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.19	741.5	29.99	761.7	39.9	4.4	90	ENE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Ablard, Director.
La Rochesur-Yon, N. School	29.94	760.4	30.16	766.0	35.6	2.0	96	NE	.....	.....	3	.....	10	.....	.....	0	0	Covered	Mouillot, Director
Le Mans, Normal School	29.91	759.7	30.24	768.0	33.8	1	92	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director
Lons-Le-Saulnier, N.School	29.22	742.1	30.17	766.2	40.5	4.7	65	SSW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Baudry, Director.
Lorient, Naval Observatory	30.11	764.7	30.21	767.2	36.7	2.6	93	NNE	.....	.....	4	.....	.....	.....	NE	0.038	0.2	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.09	738.8	30.17	766.4	32.7	0.4	86	SSE	.....	.....	1	.....	kn	.....	NW	0	0	.....	M. Barbier, Director.
Nismes Normal School	29.87	758.6	30.08	763.9	48.9	9.4	69	SE	.....	.....	1	.....	10	.....	SE	0	0	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	25.18	639.5	.....	.....	37.6	3.1	83	N	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.10	764.6	30.13	765.4	40.3	4.6	97	ENE	.....	.....	1	.....	10	ENE	ENE	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.14	765.6	30.23	767.8	34.9	1.6	80	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.19	766.7	30.22	767.5	43.7	6.5	88	ENE	.....	.....	2	.....	10	ENE	ENE	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.05	763.2	30.21	767.4	34.3	1.3	85	NE	.....	.....	1	.....	10	.....	.....	0	0	Coverad	E. Renou, Director.
Tarbes, Normal School	29.97	735.9	30.07	763.8	50.0	10	52	SSW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.45	747.9	30.19	766.7	35.6	2	91	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.5	30.05	763.2	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	4.	.....	L'Abbé March sj
Lyons, Observatory	.....	.....	30.17	766.4	37.6	3.1	90	NNW	.....	.....	1	.....	10	.....	.....	0	0	Misty	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.71	627.6	30.02	762.6	37.4	3.0	76	W	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.13	765.3	57.2	14.0	67	NW	.....	.....	1	.....	5	.....	.....	0.39	9.9	.....	Dr. A. Nieper, Jr.
Paris, Montsouris Obs'y	29.93	760.3	.....	.....	33.8	1.0	89	ENE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Marié Davy, Director
Perpignan	29.97	761.2	30.08	763.9	46.8	8.2	87	N	3.8	1.7	.....	.....	10	.....	NW	1.870	47.5	.....	Dr. Fines.
Pic du Midi, (Summit, M. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade, M. P.	22.36	567.7	.....	.....	24.3	— 4.3	.....	S	.....	.....	1	.....	4	.....	.....	0	0	Fair	Gen'l de Nansouty.
Toulouse, Observatory	29.36	745.8	30.09	764.2	45.7	7.6	91	NE	.....	.....	1	.....	10	.....	.....	0.067	1.7	.....	M. Mercadier Julier
Tours	29.97	761.3	30.17	766.3	32.9	0.5	93	E	.....	.....	1	.....	10	.....	.....	0.016	0.4	Misty	Cousin-Marquet.
Versailles Observatory	.....	.....	30.19	766.9	33.8	1.0	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Light fog	Dr. A. Bérigny, Director
Zi-Ka-Wei, (near Shanghai)	30.33	770.3	30.35	770.9	40.8	4.9	78	ENE	6.9	3.1	.....	.....	10k	.....	.....	0	0	Covered	Marc Debevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Upper 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.37	746.0	30.22	767.6	30.2	— 1.0	78	ESE			6		10			0	0		Prof. Dr. Hoh.
Berlin	30.21	767.4	30.39	772.0	32.9	0.5	92	E			2		10			0.028	0.7	Rain & snow	Prof. Arndt.
Breslau	29.82	757.3	30.35	770.9	28.6	— 1.9	95	ENE			2		10			0.030	0.77		Royal University Obs'y
Carlsruhe	29.76	755.8	30.21	767.3	33.4	0.8	80	NE			1		10	E		0	0		Albert Senz.
Cassel	29.66	753.4	30.28	769.0	33.4	0.8	86	NE			1		10	NE		Inap.	Inap.	Snowing	Dr. H. Möhl.
Crefeld	30.10	764.5	30.26	768.6	32.5	0.3	88	NE			3		9			0	0		Director Lose.
Emden					29.1	— 1.6	89	E			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.89	759.1	30.27	768.8	34.9	1.6		E			0		10			0	0		Physical Society.
Friedrichshafen	28.70	729.0	30.21	767.3	31.6	— 0.2	74	E			4		10			0	0		M. Wilhelm.
Hamburg	30.34	770.6	30.41	772.5	26.8	— 2.9	89	ENE			3		10			0	0		Captain F. Hegemann
Kiel	30.39	772.0	30.41	772.4	27.0	— 2.8	92	ENE			1		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.33	770.3	30.41	772.5	32.0	0.0	82	NW			2		8			0.008	0.2	Snowing	Prof. E. Luther.
Köslin			30.39	772.0	29.7	— 1.3		SE			2		4			0	0		H. Müller.
Leipsic, Observatory	29.88	758.9	30.32	770.2	31.5	— 0.3	92	ENE			3		10			0.031	0.8	Light snow	Prof. Bruhns, Privy Counsellor
Memel, Naval School	30.34	770.5	30.38	771.7	29.7	— 1.3	86	NNE			1		10cs						Skalweit.
Neufahrwasser	30.42	772.6	30.43	773.0	32.2	0.1	83	NNW			1		10			0.012	0.3		A. Lothes.
Posen	30.13	765.4	30.44	773.2	31.3	— 0.4	90	SE			4		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.65	753.2	30.24	768.0	33.4	0.8	87	NNE			2		10			0	0		Imp. University Observatory.
Stuttgart	29.22	742.1	30.21	767.3	32.4	0.2	85	E			1		10			0	0	Foggy	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.66	727.9	30.25	768.4	30.2	— 1.0	98	ENE	2	1			10			0	0		Dr. Van Bebber
Wustrow, Naval School	30.39	771.8	30.41	772.4	28.8	— 1.8	96	E			1		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,401.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.93	760.1	30.33	770.3	49.3	9.6		NE			3.0		k					Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.93	760.3	29.99	761.6	74.2	23.4	60	NW	6.0	2.7			1	NW		0	0	D. clouds	
Deesa	29.46	748.3	29.94	760.4	79.6	26.4	34	W					0			0	0	Blue sky	
Bombay	29.87	758.7	29.91	759.6	78.2	25.7	63	NNW	25.0	11.2			0			0	0	Blue sky	
Poonah	27.89	708.3	29.89	759.1	80.3	26.8		NE					0			0	0	Blue sky	
Lahore	29.24	742.6	30.00	762.1	64.6	18.1	31	Calm	1.2	0.5			0			0	0	Blue sky	
Belgaum	27.38	695.3	29.90	759.3	80.5	26.9	29	E	5.0	2.2			1			0	0	D. clouds	
Roorkee	29.03	737.3	29.96	760.9	64.4	18.0	28	NW	1.6	0.7			0			0	0		
Agra	29.38	746.3	29.97	761.1	67.8	19.9	38	W					0			0	0		
Nagpur	28.87	733.3	29.91	759.8	80.6	27.0	34	Calm	1.5	0.7			0			0	0	Blue sky	
Lucknow	29.56	750.8	29.95	760.6	61.9	16.6	48	Calm	0.4	0.2			0			0	0	Blue sky	
Allahabad	29.64	753.0	29.97	761.1	66.2	19.0	48	Calm	0.5	0.2			0			0	0	Blue sky	
Patna	29.76	756.0	29.95	760.8	65.2	18.4	65	W	0.2	0.1			0			0	0	Blue sky	
Hazaribagh	27.90	708.6	29.95	760.8	68.6	20.3	24	NW	4.3	1.9			0			0	0	Blue sky	
Cuttack	29.87	758.7	29.95	760.8	75.1	23.9	50	S	1.5	0.7			0			0	0	Blue sky	
Calcutta (Alipore)	29.93	760.2	29.95	760.8	70.7	21.5	68	WSW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.53	750.0	29.93	760.3	66.5	19.2	44	W	0.7	0.3			0			0	0	Blue sky	
Chittagong	29.88	758.9	29.98	761.4	65.3	18.5	79	WSW	5.6	2.5			0			0	0	Misty	
Sibsagar	29.60	751.9	29.95	760.8	64.3	17.9	84	NNE	0.6	0.3			6	WSW	WSW	0	0	D. clouds	
Jubbulpore	28.55	725.2	29.92	760.0	78.8	26.0	39	NE	1.5	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,952.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. ow'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.77	756.1	30.19	766.8	50.0	10.0	75	E	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.07	763.8	30.19	766.7	48.0	8.9	96	NNE	7.4	3.3	.....	.....	10	N	.....	0.142	3.6	.....	Prof. Dott. Lorenzoni
Milan	29.65	753.0	30.19	766.7	46.2	7.9	96	N	.....	.....	1	.....	10	.....	.....	0.134	3.4	.....	Prof. Schiaparelli.
Moncalieri	29.28	743.8	30.23	767.7	43.0	6.1	97	NNW	.....	.....	2	.....	10	.....	.....	0.335	8.5	.....	Prof. P. F. Denza.
Mondovi	28.22	716.8	30.20	767.0	42.8	6.0	92	NW	.....	.....	2	.....	10	.....	.....	0.465	11.8	.....	Prof. D. C. Bruno.
Genoa	29.96	760.9	30.15	765.9	50.0	10.0	70	NE	1.3	0.6	.....	.....	10	SE	.....	0.602	15.3	.....	Prof. G. M. Garibaldi.
Florence	29.87	758.8	30.14	765.5	55.9	13.3	72	N	0.7	0.3	.....	.....	8	SSE	.....	0.098	2.5	.....	Cav. F. Meucci
Leghorn	30.02	762.4	30.10	764.6	53.6	12.0	94	ENE	4.3	1.9	.....	.....	7	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.10	764.5	30.15	765.8	45.7	7.6	100	NE	3.8	1.7	.....	.....	10	.....	.....	0.039	1.0	.....	Prof. Luigi Guidi.
Rome	29.95	760.7	30.13	765.2	56.8	13.8	64	N	6.3	2.8	.....	.....	3	.....	.....	0.012	0.3	.....	Prof. P. S. Ferrari.
Lecce	29.98	761.5	30.24	768.1	56.3	13.5	72	SSW	11.2	5.0	.....	.....	7	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.85	758.1	30.04	763.0	60.4	15.8	79	SE	.....	.....	2	.....	7	SE	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.28	743.6	30.19	766.7	54.5	12.5	75	SW	0	0	.....	.....	9	.....	.....	0.421	10.7	.....	Prof. D. Conti.
Palermo	29.85	758.2	30.11	764.7	58.1	14.5	70	NE	3.1	1.4	.....	.....	9	.....	.....	0.008	0.2	.....	Prof. G. Cacciatore.
Syracuse	30.08	764.1	30.16	766.1	57.9	14.4	89	SE	15.0	6.7	.....	.....	7	SE	.....	0.142	3.6	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.60	751.9	30.16	766.0	48.0	8.9	97	E	6.3	2.8	.....	.....	10	.....	.....	0.748	19.0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.39	771.9	30.41	772.4	31.7	— 0.2	79	N	2.0	0.9	.....	.....	7ck;s	N	.....	0	0	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.21	767.3	30.42	772.6	34.4	1.3	76	NNE	3.2	1.4	.....	.....	0	.....	.....	0	0	Very clear.	S. Takehayashi.
Tokei (Yeddo) Observatory	30.07	763.8	30.14	765.5	33.0	0.6	91	N	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.13	638.3	30.38	771.5	39.2	4.0	52	SW	.....	.....	1	7cs	0	SW	.....	0	0	Misty	Prof. L. Perez
Leon	24.50	622.4	30.20	767.2	48.9	9.4	73	SW	.....	.....	2	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.3	30.36	771.1	41.5	5.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	43.2	6.2	61	W	.....	.....	1	4cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.00	762.1	30.02	762.4	72.1	22.3	96	N	.....	.....	1	3	5	E	NE	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.24	615.7	30.23	767.8	45.0	7.2	66	SW	.....	.....	1	8	0	N	.....	0	0	.....	G. Barroeta, M. D.
Vera-Cruz	30.01	762.2	30.04	762.9	73.4	23.0	91	NW	.....	.....	0	.....	4sk	.....	.....	0	0	½ clouded	Prof. J. Rossell.
Zacatecas	22.55	572.7	.....	.....	49.1	9.5	58	SW	.....	.....	1	3	0	S	.....	0	0	½ clouded	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.5	41.0	5.0	73	N	2.2	1.0	.....	.....	2	.....	Calm	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.7	30.11	764.7	68.7	20.4	54	NE	.....	.....	2	0	2	.....	E	.....	.....	Clear	R. Banda, C. E.
San Juan E. Michapam	29.87	758.6	30.00	762.0	74	23.3	.....	Calm	.....	.....	0	7n	3n	.....	.....	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft. San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.31	769.9	30.31	769.9	32.4	0.2	.....	NE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.32	770.0	30.37	771.4	29.7	— 1.3	.....	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.32	770.2	30.32	770.2	28.4	— 2.0	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.30	769.6	30.30	769.6	31.6	— 0.2	90	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.28	769.1	30.33	770.3	31.5	— 0.3	85	NE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.29	769.3	30.34	770.7	38 8	3.8	83	N	3.6	1.6	.....	.....	1	.....	.....	0	0	.....	
Brönö	30.30	769.5	30.34	770.5	36.3	2.4	93	NNW	9	4	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.31	769.9	30.48	774.1	8.1	—13.3	88	E	4	2	.....	.....	6	.....	.....	0	0	.....	
Tromsö	30.23	767.8	30.27	768.9	33.8	1.0	87	S	9	4	.....	.....	10	.....	.....	0.059	1.5	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.98	761.6	30.18	766.5	55.9	13.3	82	ESE	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.9	30.03	762.7	46.2	7.9	91	Calm	0	0	.....	.....	9	SSE	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.99	761.8	30.08	764.0	64.2	17.9	58	SW	3.8	1.7	.....	.....	3	.....	.....	0.055	1.4	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.63	752.7	30.00	762.0	59 2	10.1	65	E	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.15	765.7	30.22	767.5	59.7	15.4	61	E	1.3	0.6	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 8 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinto, Com'd'r.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'r.
Quanza, Ajuda, Gulf of Guinea	1	W	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'r.
Rio Lima; Capt. da Silva Costa. Porto de S. Jose de Bissao, Senegambia	1	ENE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, S. 12° 11′, E. 12° 52′	2	SW	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	1	N	Overcast	M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	29.94	760.4	30.39	771.9	28.0	— 2.2	79	NNE	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.98	761.5	30.44	773.2	15.3	— 9.3	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	30.33	770.3	30.60	777.1	10.0	—12.2	81	SE	4	2	.....	.....	2ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.59	776.9	30.60	777.3	5.0	—15.0	91	SE	7	3	.....	.....	1	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.89	759.2	30.62	777.6	0.3	—17.6	100	SE	4	2	.....	.....	2c;ck	.....	.....	.....	.....	Solar corona	Physical Cabinet.
Nikolaiev	.....	.....	.....	.....	8.2	—13.2	76	NE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.48	774.1	30.50	774.6	22.6	— 5.2	90	NE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.28	769 2	30.91	785.1	5.0	—15.0	82	S	7	3	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.42	772.6	30.65	778.4	6.8	—14.0	66	ESE	18	8	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	30.40	772.1	30.42	772.6	8.2	—13.2	88	SSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.88	733.4	30.38	771.5	33.4	0.8	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Observatory
Astrakhan	30.75	781.0	30.67	778.9	14.5	— 9.7	81	ENE	9	4	.....	.....	9cs	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	30.42	772.6	30.97	786.5	— 4.7	—20.4	85	E	4	2	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.65	778.6	30.97	786.5	— 0.9	—18.3	92	SW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.73	755.1	30.82	782.7	2.5	—16.4	67	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.28	769.1	30.54	775.7	17.6	— 8.0	.....	NE	13	6	.....	.....	2ks	.....	.....	.....	.....	.....	
Tashkend	28.74	730 1	30.58	776.7	26.6	— 3.0	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.30	769.7	30.92	785.4	—13.0	—25.0	85	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.30	769.6	30.63	778.1	—17.9	—22.7	82	WNW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.18	766.7	30.33	770.3	24.1	— 4.4	86	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Snowing	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.95	760.6	30.03	762.8	—18.4	—28.0	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.82	759.3	30.00	762.0	52.2	11.2	74	ENE	2.9	1.28	.....	.....	9	.....	.....	0.463	11.75	Drizzling	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.5	49.6	9.8	96	NE	0.3	0.14	.....	.....	10	.....	.....	Inap.	Inap.	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.02	686.3	.....	.....	42.6	5.9	74	NE	8.8	3.95	.....	.....	8	.....	.....	0.039	1.0	Cloudy	Domingo Martiny Perez.
Madrid, Royal Observatory	27.74	704.7	.....	.....	46.8	8.2	87	NE	1.5	0.67	.....	.....	10	.....	.....	0.020	0.5	Raining	The Staff.
Murcia, Met. Obs'y	29.84	758.0	30.00	761 9	57.7	14.3	79	S	0.5	0.22	.....	5	3	NW	.....	0.044	1.12	Raining	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.07	738.3	29.97	761.2	50.7	10.4	65	NE	3.1	1.4	.....	.....	8	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.15	765.9	30.22	767.6	69.9	21.1	89	E	5.4	2.4	.....	0	1k;s	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.84	758.0	29.89	759.3	80.3	27.0	73	SE	2.2	1.0	.....	0	0	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.05	763.2	57.0	13.9	58	W	5.0	2.3	.....	0	c	.....	W	1.033	26.2	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.08	763.9	30.17	766.2	76.3	24.6	87	E	10.3	4.6	.....	5k	4kn	E	E	0.197	5.00	Cloudy	Leonardo de Tejeda, Ch'f. Eng'r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.41	772.4	30.45	773.4	21.2	— 6.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.34	770.6	30.39	771.9	16.2	— 8.8	94	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Hernosand	30.35	771.0	30.41	772.3	19.8	— 6.8	89	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Stockholm	30.26	768.6	30.44	773.1	15.6	— 9.1	97	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Wisby	30.31	769.9	30.37	771.4	26.6	— 3.9	83	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.35	770.9	30.43	772.8	12.0	—11.1	93	NW	0	0	.....	.....	10	.....	.....	0.001	0.02	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.71	729.3	30.21	767.3	31.6	— 0.2	95	ENE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.51	724.2	30.24	768.0	30.2	— 1.0	97	E	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.1 mm.; Thermometer, —2.2 cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.41	772.5	41.0	5.0	76	NE	9	4.0	.....	.....	9	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.27	768.9	56.8	13.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.00	762.0	30.11	764.9	58.3	14.6	54	N	.....	.....	3	.....	0	.....	.....	0.19	4.8	Blue sky.....	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.79	756.7	29.86	758.4	14.3	— 9.8	82	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.50	749.3	29.82	757.4	35	1.7	.....	Calm	0	0	.....	.....	Fog	.....	SW	0	0	Foggy.....	W. R. Bigg.
*Chatham, N B	29.82	757.4	29.89	759.2	11	—11.7	90	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.89	759.2	29.93	760.2	23	— 5.0	93	SE	12	5.4	.....	.....	10n	.....	Calm	0	0	Cloudy.	H. J. Cundall, C. E.
Cornwall, Ontario	29.56	750.8	29.77	756.1	13.0	—10.6	94	W	.....	.....	1	.....	10n; fog	.....	.....	0	0	Foggy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.09	764.3	30.14	765.5	31.0	— 0.6	89	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	W. H. Bevis.
*Father Point, Quebec	29.73	755.1	29.75	755.6	13	—10.6	80	Calm	0	0	.....	.....	10n	.....	.....	0.13	3.3	Heavy snow	J. McWilliams.
Fredericton, N. B	29.83	757.7	29.90	759.4	12.6	—10.8	89	E	1	0.4	.....	10cs	0	.....	.....	Inap.	Inap.	Overcast....	Prof. Harrison.
*Fort Garry Manitoba	29.20	741.7	30.16	766.1	—16	—26.7	95	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	28.81	731.8	29.94	760.5	33	0 6	.....	SW	.....	.....	1	3cs	0	SW	.....	0	0	Fair	James Grant
*Halifax, N. S	29.78	756.4	29.92	760.0	33	0.6	98	S	7	3.1	.....	.....	Fog	.....	.....	0.610	0.25	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.54	750.3	29.92	760.0	38.3	3.5	89	SW	.....	.....	1	10c	0	SW	.....	0.21	5.3	Overcast....	Geo. Dickson, M. A.
Heart's Content, N. F	30.07	763.8	30.10	764.5	18	— 7.8	100	SE	.....	.....	1	0	1ks	.....	E	0	0	Fair.....	E. Weedon.
*Kingston, Ontario	29.47	748.5	29.81	757.2	36	2.2	95	W	6	2.7	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.02	762.5	30.06	763.5	20.7	— 6.3	86	SW	5	2.2	.....	7k	0	SW	.....	0	0	Cloudy.....	C. H. Rigby.
Moose Factory, Ontario	29.76	755.9	29.80	756.9	— 2.3	—19.1	90	W	.....	.....	3	0	3s	.....	.....	0.02	0.5	Fair	J. R. Nason.
*Montreal, Quebec	29.58	751.3	29.80	756.9	13	—10.6	90	W	1	0.4	.....	.....	Fog	.....	.....	0.22	5.6	Foggy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.16	740.7	29.88	758.9	27	— 2.8	82	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.07	738.4	29.84	757.9	36.9	2.7	85	NW	.....	.....	.....	.....	9cs	.....	.....	.....	.....	Cloudy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.23	742.4	29.94	760.5	38	3.3	91	W	5	2.2	.....	10k	0	W	.....	0.48	12.2	Cloudy	H. Morgan.
Port Hastings, N. S	29.98	761.5	30.03	762.8	24.7	— 4.1	.....	S	3	1.3	.....	.....	.....	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.97	761.2	36	2.2	89	W	.....	.....	.....	.....	10n	.....	W	0.45	11.4	Cloudy.....	M. Payne.
*Quebec, Quebec	29.45	748.0	29.80	756.9	12	—11.1	90	NE	.....	.....	1	.....	10n	.....	NE	0.18	4.6	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.91	759.7	0	—17.8	80	Calm	0	0	.....	0	2s	.....	W	Inap.	Inap.	Fair	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	24	—14.4	96	Calm	.....	.....	0	.....	10n	.....	.....	0.02	0.5	Cloudy.....	Dr. Grove.
St. John, N. B	29.69	754.1	29.87	758.7	25	— 3.9	100	W	1	0.4	.....	.....	10s	.....	.....	0.05	1.3	Overcast....	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.2	29.92	760.0	33	0.6	72	W	13	5.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	K. Stewart.
Stayner, Ontario	29.13	739.9	29.94	760.5	34	1.1	62	Calm	0	0	.....	5k	0	NW	.....	0	0	Fair.....	R. J. Cole.
Stratford, Ontario	28.64	727.4	29.96	761.0	33.0	0.6	88	NW	7	3.1	.....	0	3s	.....	.....	0.32	8.1	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.03	762.8	30.07	763.8	17	— 8.3	96	S	2	0.9	.....	.....	10s	.....	.....	Inap.	Inap.	Fair.....	T. C. Hill.
*Toronto, Ontario	29.50	749.3	29.89	759.2	38	3.3	76	W	7	3.1	.....	.....	10ks	.....	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.82	757.4	29.92	760.0	28.0	— 2.2	94	.....	.....	.....	.....	.....	10n	.....	Calm	0	0	Overcast.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	17.0	— 8.3	83	SW	.....	.....	.....	0	.....	.....	.....	0	0	Fair.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	29.60	751.8	29.83	757.7	39	3.9	82	S	6	2.7	.....	.....	10s	.....	W	0.10	2.5	Cloudy	
Alpena, Michigan	29.27	743.4	29.94	760.5	27	— 2.8	76	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	29.05	737.9	30.20	767.1	57	13.9	100	SE	8	3.6	.....	.....	Fog	.....	Calm	0.15	3.8	Dense fog	
Atlantic City, New Jersey	29.96	761.0	29.97	761.2	39	3.9	73	SW	10	4.5	.....	0	5s	.....	Calm	0	0	Fair	
Augusta, Georgia	30.08	764.0	30.26	768.6	54	12.2	93	Calm	0	0	.....	2k	Fog	W	W	0.31	7.9	Dense fog	
Baltimore, Maryland	29.96	761.0	30.01	762.2	47	8.3	92	SW	5	2.2	.....	5k	2s;fg	W	SW;Calm	0.12	3.0	Foggy	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	41	5.0	91	SW	12	5.4	.....	8k	0	W	.....	0.04	1.0	Fair	
Bismarck, Dakota	28.13	714.5	29.98	761.5	8	—13.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.55	725.2	29.84	757.9	61	16.1	100	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.22	691.4	30.18	766.6	16	— 8.9	74	NE	1	0.4	.....	0	5s	.....	Calm	0.53	13.5	Fair	
Boston, Massachusetts	29.70	754.4	29.86	758.4	40	4.4	82	SW	6	2.7	.....	.....	10n;fog	.....	SW;Calm	0.03	0.8	Light rain	
Brackettville, Texas	28.87	733.3	29 89	759.2	62	16.7	94	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Breckenridge, Minnesota	29.02	737.1	30.10	764 5	12	—11.1	100	SE	12	5.4	.....	1cs	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.93	760.2	29.99	761.7	69	20.6	95	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.20	741.7	29.92	760.0	35	1.7	100	SW	7	3.1	.....	.....	Fog	.....	.....	0.85	21.6	Dense fog	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	26	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.49	749.0	29.79	756.7	36	2.2	85	SW	7	3.1	.....	.....	10s	.....	W	0	0	Cloudy	
Cairo, Illinois	29.68	753.9	30.07	763.8	60	15.6	94	SW	12	5.4	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.16	639.0	29.96	761.0	46	7.8	69	N	4	1.8	.....	.....	8s	.....	Calm	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	37	2.8	38	NW	.....	.....	1	5k	0	N	.....	0	0	Fair	
Campo, California	27.41	696.2	29.98	761.5	39	3.9	91	SW	8	3.6	.....	.....	10s	SW	.....	0.11	2.8	Cloudy	
Cape Hatteras, N. Carolina	30.23	767.8	30.23	767.8	55	12.8	100	SW	10	4.5	.....	.....	10n	SW	.....	0.01	0.3	Light rain	
Cape Henry, Virginia	30.12	765.0	30.14	765.5	61	16.1	82	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.24	768.1	30.26	768.6	56	13.3	94	SW	20	8.9	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Cape May, New Jersey	29.98	761.5	30.01	762.2	43	6.1	92	SW	28	12.5	.....	8cs	0	W	.....	0.01	0.3	Fair	
Castroville, Texas	29.23	742.4	29.93	760.2	64	17.8	94	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Charleston, South Carolina	30.26	768.6	30.33	770.4	59	15.0	94	SW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	12	—11.1	80	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.39	746.5	30.11	764.8	34	1.1	70	NW	4	1.8	.....	5ck;cs	0	W	.....	0.08	2.0	Fair	
Cincinnati, Ohio	29.36	745.7	30.00	762.0	58	14.4	88	SW	5	2.2	.....	.....	10ks;fg	.....	W;Calm	0.17	4.3	Threatening	
Cleveland, Ohio	29.27	743 4	30.01	762.2	38	3.3	91	W	8	3.6	.....	.....	10s	.....	Calm	0.42	10.7	Cloudy	
Coleman City, Texas	28.21	716.5	29.87	758.7	64	12.2	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Columbus, Ohio	29.14	740.1	29 98	761.5	50	10.0	86	N	4	1.8	.....	.....	10n	.....	NW	0.55	14.0	Light rain	
Corpus, Texas	28.09	713.5	29.80	756.9	44	6.7	75	NW	2	0.9	.....	5c	0	NW	.....	0	0	Fair	
Corsicana, Texas	29.52	749 8	29.98	761.5	64	17.8	89	S	5	2.2	.....	2cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.52	749.8	30.18	766.6	33	0.6	79	NW	4	1.8	.....	5cs	0	W	.....	0.27	6.9	Fair	
Deadwood, Dakota	25.24	641.1	.....	.....	16	— 8.9	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.15	740.4	29.92	760.0	63	17.2	94	S	12	5.4	.....	10k	0	S	.....	0	0	Cloudy	
Denver, Colorado	24.68	626.9	29.90	759.4	29	— 1.7	78	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.25	742.9	30.18	766.6	29	— 1.7	78	NE	2	0.9	.....	0	5s	.....	NW	0.01	0.3	Fair	
Detroit, Michigan	29.31	744.5	29.99	761.7	37	2.8	81	W	5	2.2	.....	5k	5s	W	W	0.37	9.4	Cloudy	
Dodge City, Kansas	27.39	695.7	29.76	755.9	34	1.1	100	E	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Dubuque, Iowa	29.47	748.5	30.21	767.3	27	— 2.8	76	N	2	0.9	.....	8k	Fog	N	Calm	0.01	0.3	Cloudy	
Duluth, Minnesota	29.41	747.0	30.14	765.5	17	— 8.3	83	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.17	740.9	29.91	759.7	52	11.1	93	NW	.....	.....	1	.....	Fog	.....	Calm	0	0	Foggy	
Eastport, Maine	29.78	756.4	29.85	758.2	27	— 2.8	82	E	1	0.4	.....	5c	5s;hz	W	Calm	0.03	0.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	69	20.6	90	S	.....	.....	6	.....	10ks	.....	S	0	0	Cloudy	
El Paso, Texas	26.23	666.2	.....	.....	60	15.6	44	W	5	2.2	.....	0	5s	.....	W	0	0	Fair	
Erie, Pennsylvania	29.24	742.7	29.96	761.0	41	5.0	91	SW	4	1.8	.....	.....	10s	.....	Calm	0.87	22.1	Cloudy	
Escanaba, Michigan	29.35	745.5	30.04	763.0	24	— 4.4	61	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.53	724.6	30.13	765 3	39	3.9	46	NE	.....	.....	2	0	0	.....	.....	6	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.50	647.7	29.57	751.1	32	0.0	19	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.18	639.6	30.14	765.5	38	3.3	56	SW	1	0.4	.....	2k	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.41	747.0	29.95	760.7	46	7.8	84	SE	2	0.9	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort Griffin, Texas	28.72	729.5	30.01	762.2	46	7.8	92	Calm	0	0	.....	2c	5s	S	Calm	0	0	Fair	
Fort Keogh, Montana	27.41	696.2	.....	.....	8	—13.3	.....	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.80	706.1	29.70	754.4	60	15.6	88	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.85	758.2	45	7.2	92	NW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Fort Stevenson, Dakota	28.13	714.5	.....	.....	— 3	—19.4	100	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.32	719.3	29.86	758.4	63	17.2	94	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.05	763.3	30.09	764.3	62	16.7	100	SE	8	3.6	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Graham, Texas	28.88	733.5	29.94	760.5	52	11.1	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Grand Haven, Michigan	29.49	746.7	30.07	763.8	34	1.1	79	NW	12	5.4	.....	0	2s	.....	Calm	0.05	1.3	Fair	
Indianapolis, Indiana	29.25	742.9	30.04	763.0	44	6.7	84	N	6	2.7	.....	.....	10s	.....	N	0.19	4.8	Cloudy	
Indianola, Texas	30.02	762.5	30.05	763.3	66	18.9	95	SE	11	4.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Jacksboro, Texas	28.81	731.8	29.94	760.5	58	14.4	94	SW	12	5.4	.....	5cs	0	SW	.....	0	0	Fair	
Jacksonville, Florida	30.29	769.4	30.31	769.9	58	14.4	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.48	748.8	30.12	765.0	35	1.7	90	NE	7	3.1	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Key West, Florida	30.21	767.3	30.25	768.3	72	22.2	90	E	9	4.0	.....	1c	2s;fog	W	E;Calm	0	0	Fair	
Kittyhawk North Carolina	30.14	765.5	30.16	766.1	55	12.8	100	SW	13	5.8	.....	.....	10n	.....	SW	0.25	6.3	Light rain	
Knoxville, Tennessee	29.17	740.9	30.16	766.1	57	13.9	94	W	8	3.6	.....	.....	10s	.....	W	0.13	3.3	Cloudy	
La Crosse, Wisconsin	29.42	747.2	30.20	767.1	27	— 2.8	76	NW	1	0.4	.....	2k	0	Calm	.....	0	0	Clear	
La Mesilla, New Mexico	26.08	662.4	30.24	767.8	40	4.4	73	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.55	750.0	29.87	758.7	68	20.0	84	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.29	741.7	30.07	763.8	35	1.7	80	NE	6	2.7	.....	.....	10s	.....	.....	0.09	2.3	Cloudy	
Los Angeles, California	29.67	753.6	30.02	762.5	43.5	6.4	83	N	2	0.9	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Louisville, Kentucky	29.46	748.3	30.00	762.0	60	15.6	82	SW	6	2.7	.....	2k	8s	S	Calm	0.03	0.8	Cloudy	
Lynchburg, Virginia	29.39	746.5	30.08	764.0	50	10.0	86	Calm	0	0	.....	5cs	0	Calm	.....	0.02	0.5	Fair	
Madison, Wisconsin	29.13	739.9	30.16	766.1	29	— 1.7	67	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.26	743.2	29.99	761.7	29	— 1.7	67	NE	8	3.6	.....	.....	10ks	.....	N	0	0	Cloudy	
Mason, Texas	28.35	720.1	30.08	764.0	61	16.1	94	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.80	756.9	30.11	764.8	61	16.1	100	SW	6	2.7	.....	.....	10s	.....	SW	0.20	5.1	Cloudy	
Milwaukee, Wisconsin	29.33	745.0	30.10	764.5	29	— 1.7	67	NW	13	5.8	.....	.....	0	.....	Calm	Inap.	Inap.	Clear	
Mobile, Alabama	30.19	766.8	30.24	768.1	69	15.6	100	S	8	3.6	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	
Montgomery, Alabama	30.01	762.2	30.24	768.1	64	17.8	89	S	6	2.7	.....	.....	10ks	.....	SW	0.01	0.3	Threatening	
Morgantown, West Virginia	28.91	734.3	29.95	760.7	57	13.9	94	SW	8	3.6	.....	.....	10ks	.....	SW	0.17	4.3	Cloudy	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	24	— 4.4	100	NW	46	20.1	.....	.....	Fog	.....	NW	0.30	7.6	Foggy	
Nashville, Tennessee	29.56	750.8	30.09	764.3	63	17.2	83	SW	4	1.8	.....	0	2s	.....	W	0.01	0.3	Fair	
New Haven, Connecticut	29.80	756.9	29.92	760.0	39	3.9	91	S	5	2.2	.....	.....	10s;fg	.....	Calm	0.09	2.3	Cloudy	
New London, Connecticut	29.88	758.9	29.93	760.2	39	3.9	100	SW	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
New Orleans, Louisiana	30.12	765.0	30.18	766.6	68	20.0	95	S	5	2.2	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Newport, Rhode Island	29.87	758.7	29.92	760.0	38	3.3	100	SW	24	10.7	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
New York, New York	29.77	756.1	29.95	760.7	40	4.4	100	SW	10	4.5	.....	.....	Fog	.....	Calm	0.01	0.3	Dense fog	
Norfolk, Virginia	30.06	763.5	30.12	765.0	59	15.0	94	SW	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.08	687.8	29.77	756.1	26	— 4.4	88	E	9	4.0		0	0			0	0	Clear.	
Olympia, Washington Ter.	30.09	764.3	30.14	765.5	29.0	— 1.7	100	S	1	0.4			Fog		Calm	0	0	Foggy	
Omaha, Nebraska	28.95	735.3	30.11	764.8	29	— 1.7	78	N	4	1.8		5c	0	W		0	0	Fair	
Oswego, New York	29.55	750 6	29.88	758.9	44	6.7	84	W	5	2.2			Fog		Calm	0.55	14.0	Foggy	
Pembina, Dakota	29.15	740.4	30.09	764.3	— 8	—22.2	100	SE	4	1.8		0	0			0	0	Clear	
Philadelphia, Pa	29.93	760.2	29.98	761.5	44	6.7	92	SW	12	5.4			10s;fg		Calm	0	0	Cloudy	
Phœnix, Arizona	28.84	732 5	30.68	779.3	48	8.9	78	E			1	0	0			0	0	Clear	
Pike's Peak, Colorado	17.45	443.2	29.66	753.4	— 2	—18.9	10	W	16	7.2		0	0			0.29	7.4	Clear	
Pioche, Nevada	23.82	505.0	29.60	751.8	26	— 3.3	100	S	5	2.2			10n		Calm	0.17	4 3	Light snow	
Pittsburg, Pennsylvania	29.12	739.6	29.92	760.0	53	11.7	93	W	8	3.6			10n		Calm	0.10	2.5	Light rain	
Port Huron, Michigan	29.28	743.7	29.96	761.0	36	2.2	90	NW	8	3.6		5ck	2ks	W	Calm	0.09	2.3	Fair	
Portland, Maine	29.80	756.9	29.85	758.2	26	— 3.3	88	N	2	0.9			10n		Calm	0.02	0.5	Light rain	
Portland, Oregon	30.10	764.5	30.20	767.1	33.0	0.6	89	NW	4	1.8		0	0			0	0	Clear	
Prescott, Arizona					34	1.1	61	Calm	0	0		2k	0	Calm		0	0	Fair	
Pilot Point, Texas	29.18	741.2	30.03	762.8	43	6.1	75	SE	12	5.4		2k	0	S		0	0	Fair	
Punta Rassa, Florida	30.29	769.4	30.31	769.9	66	18.9	84	E	6	2.7		5ck	2s	SE	Calm	0	0	Fair	
Red Bluff, California	29.69	754.1	30.06	763.5	34	1.1	95	NW	4	1.8		0	1s		Calm	0.20	5.1	Clear	
Rio Grande City, Texas	29.79	756.7	30.00	762.0	67	19.4	89	SE	12	5.4		0	0			0	0	Clear	
Rochester, New York	29.24	742.7	29.86	758.4	40	4.4	91	W	14	6.3			10s;fg		Calm	0.09	2 3	Cloudy	
Roseburg, Oregon	29.57	751.1	30.17	766.3	30.5	— 0.8	100	Calm	0	0			10s		Calm	0.06	1.5	Cloudy	
Sacramento, California	29.90	759.4	29.99	761.7	40.8	4.9	82	NE	7	3.1			10n		S	0.07	1 8	Light rain	
St. Louis, Missouri	29.52	749.8	30.11	764.8	40	4.4	82	N	9	4.0			10s		Calm	0.08	2.0	Cloudy	
St. Marks, Florida	30.28	769.1	30.29	769.4	53	11.7	100	S	2	0.9		0	Fog		Calm	0	0	Clear	
St. Paul, Minnesota	29.25	742.9	30.14	765.5	21	— 6.1	85	Calm	0	0		0	0			0	0	Clear	
Salt Lake City, Utah	25.55	649.0	29.88	758.9	21	— 6.1	57	E	4	1.8		0	0			0.11	2.8	Clear	
San Antonio, Texas	29.31	744.5	29.88	758.9	64	17 8	100	SE	1	0.4			10n		Calm	Inap.	Inap.	Light rain	
San Diego, California	29.99	761.7	30.06	763.5	49.5	9.7	93	Calm	0	0		0	8s		Calm	0 25	6.3	Fair	
Sandusky, Ohio	29.35	745.5	30.03	762.8	42	5.6	74	W	11	4.9			10s		W	0.42	10.7	Cloudy	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	42	5.6	91	W	16	7.2			10s		W	0.02	0.5	Cloudy	
San Francisco, California	29.89	759.2	29.94	760.5	43.7	6.5	84	S	5	2.2		0	8ks		SW	0.23	5.8	Fair	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	28	— 2.2	66	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Savannah, Georgia	30.20	767.1	30.29	769.4	59	15.0	94	Calm	0	0		0	5s		Calm	0	0	Fair	
Shreveport, Louisiana	29.83	757.7	30.05	763.3	65	18.3	94	Calm	0	0			10s		Calm	0.04	1.0	Cloudy	
Silver City, New Mexico	24.24	615.7	30.60	777.2	32	0.0	89	NW	3	1.3		0	0			0	0	Clear	
Smithville, North Carolina	30.25	768.3	30.28	769.1	56	13.3	94	SW	6	2.7			10s;fg		Calm	0.02	0.5	Cloudy	
Springfield, Massachusetts	29.75	755.6	29.89	759.2	41	5.0	74	S	2	0.9			10ks		S	0.04	1.0	Cloudy	
Stockton, Texas	26.93	684.0	29.93	760.2	44	6.7	84	SW	4	1.8		0	0			0	0	Clear	
Thatcher's Island, Mass	29.80	756.9	29.86	758.4	40	4.4	82	SW	10	4.5			10s		W	Inap.	Inap.	Cloudy	
Toledo, Ohio,	29.32	744.7	30.01	762.2	42	5.6	83	W	6	2.7			10s		W	0.50	12.7	Cloudy	
Tucson, Arizona					37	2.8	53	S	3	1.3		0	0			0	0	Clear	
Tybee Island, Georgia	30.28	769.1	30.31	769.9	56	13.3	94	Calm	0	0		0	5ks		W	0	0	Fair	
Umatilla, Oregon	29.90	759.4	30.43	772.9	28.0	— 2.2	88	E	6	2.7			10s		Calm	0	0	Cloudy	
Unalashka, Aleutian Islands					26	— 3.3	100	SW			7		10s		SW	0.51	13.0	Cloudy	
Uvalde, Texas	29.12	739.6	29.94	760.5	63	17.2	94	E	2	0.9			Fog		Calm	0	0	Foggy	
Vicksburg, Mississippi	29.91	759.7	30.17	766.3	67	19.4	95	S	7	3.1			10s		S	0.35	8.9	Cloudy	
Virginia City, Montana	24.11	612.4	29.59	751.6	3	—16.1	73	SE	1	0.4		0	0			0	0	Clear	
Visalia, California	29.62	752.3	30.00	762.0	40.3	4.6	92	SE	4	1.8		0	5s		Calm	0.09	2.3	Fair	
Washington, D. C.	29.92	760 0	30.04	763.0	47	8.3	85	SE	4	1.8		5ck	2s;f'g	SW	SW	0.06	1.5	Cloudy	
Wickenburg, Arizona					39	3.9	64	SE			1		10ks		SW	0	0	Cloudy	
Wilmington, N. Carolina	30.17	766.3	30.25	768.3	62	16.7	94	SW	8	3.6			10n		SW	0.01	0.3	Light rain	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	9	—12.8	78	E	14	6.3		0	0			0	0	Clear	
Wood's Holl, Mass	29.87	758.7	29.91	759.7	41	5.0	82	SW	16	7.2			10s		Calm	0.08	2 0	Cloudy	
Yankton, Dakota	28.81	731.8	30.17	766.3	26	— 3.3	75	SE	1	0.4			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.81	757.2	29.98	761.5	44	6.7	68	Calm	0	0		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.39	721.1	29.78	756.4	55	12.8	87												J. B. Gordon.
Havana, Cuba, W. I	30.16	766.1	30.21	767.3	72	22.2	85	E	2.4	1.1		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.26	768.6	30.27	768.8	75	23.9	8.	Calm	0	0		2c	2s	E		0.14	3.6		James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	30.02	762.5	30.10	764.5	78	25.6		NE	19.2	9.0						0	0	Partly clo'dy	F. M Everett.
Paramaribo, D. Guiana, S. A	29.98	761.5	29.98	761.5	76	24.4	95	E			2		10n		E	1.320	33.53	Raining	C. J. Hering
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.22	767.6	30.28	769.1	—32.0	—35.6		N	10	4.5		2c	1s	NW	NW	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,838 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,280 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.6 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.88	758.9	42	5.6	39	3.9	91	E	10	4.5	.....	.....	10	.....	E	0.21	5.8	.....	.....	Raining	
Navy Yard, Pensacola, Fla.	30.35	770.9	64	17.8	64	17.8	100	S	1	0.4	.....	.....	Fog	.....	.....	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.80	756.9	53	11.7	37	2.8	90	S	8	3.6	.....	.....	2?	.....	.....	.....	.....	.....	.....	Overcast?....	
Naval Hospital, Yokohama, Japan.....*	30.11‡	764.8‡	.....	.....	35	1.7	90	N	.....	.....	1		2k;ck	.....	NW	0.39	9.9	.....	.....	Clearing.....	
Alaska. N 13° 14′, W. 87° 38′....	30.15	765.8	80	26.7	82	27.8	79	NE	.....	.....	2		0	.....	.....	0	0	Smooth	.....	Blue sky	
Alliance, Smyrna, Turkey.....	30.25‡	768 3‡	.....	.....	51	10.6	40	ENE	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ashuelot. Saigon, Cochin-China. ...	29.98	761.5	85	29.4	79	26.1	82	SSE	.....	.....	1	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La.....	30.22	767.6	49	9.4	67	19.4	100	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.....	29.92	760.0	43	6.1	42	5.6	100	SW	7	3.1	.....	.....	Fog	.....	.....	0.04	1.0	.....	.....	Foggy.....	
Constitution, Portsmouth, England....	30.24‡	768.1‡	.....	.....	36	2.2	90	NNE	14	6.3	.....	.....	10	.....	NE	.....	.....	.....	.....	Overcast.....	
Despatch, Constantinople, Turkey	30.47‡	773.9‡	.....	.....	44	6.7	84	N	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Essex, S. 48° 27′, W. 60° 55′.....	29.35	745.5	56	13.3	49	9.4	93	S	.....	.....	3	.....	8	.....	S	.....	.....	Long	S	Fair.....	
Franklin, Norfolk, Va.....	30.26	768.6	66	18.9	61	16.1	88	SSW	14	6.3	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	30.09‡	764.3‡	.....	.....	50	10.0	100	NNE	.....	.....	2	.....	8	.....	.....	0.23	5.8	.....	.....	Showery.....	
Hartford, Montevideo, Uruguay...	29.67	753.6	74	23.3	72	22.2	76	NW	6	2.7	.....	.....	10	.....	.....	0.01	0.3	Smooth	.....	Cloudy.....	
Lackawana, Panama.....*	29.70‡	754.4‡	.....	.....	77	25.0	91	NW	.....	.....	1	.....	2	.....	.....	– 0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....	29.96†	761.0†	.....	.....	38	3.3	90	W	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Monocacy, Nagasaki, Japan .....*	30.43‡	772.9‡	.....	.....	36	2.2	80	ESE	.....	.....	0–1	.....	1	.....	ESE	.....	.....	.....	.....	Hazy	
Monongehela, Yokohama, Japan ....*	30.10‡	764.5‡	.....	.....	32	0.0	??	NW	.....	.....	1	.....	2	.....	NW	Blank	Blank	.....	.....	D. clouds.....	
New Hampshire, Port Royal, S. C.....	30.44†	773.2†	.....	.....	55	12.8	100	S	.....	.....	.....	.....	Fog	.....	.....	0	0	.....	.....	Foggy	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	70	21.1	90	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.25	768.3	29	— 1.7	25	— 3.9	100	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	48	8.9	85	SW	.....	.....	1	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Pensacola, N. 1° 15′, W. 81° 40′.....	29.94‡	760.5‡	.....	.....	76	24.4	95	S	7	3.1	.....	.....	10	.....	.....	0	0	Smooth	S	Overcast	
Powhatan, Norfolk, Va.....	30.16	766.1	61	16.1	61	16.1	88	WSW	.....	.....	3–4	.....	10	.....	W	0	0	.....	.....	Overcast.....	
Quinnebaug, N. 34° 51′, W. 23° 09′.....	30.24‡	768.1‡	.....	.....	60	15.6	94	E	.....	.....	2	.....	2	.....	E	.....	.....	Smooth	.....	Clear.	
Ranger. Yokohama, Japan.....*	30.09‡	764.3‡	.....	.....	44	6.7	84	NNW	.....	.....	2	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Richmond, N. 36° 38′, W. 28° 00′.....	30.10‡	766 8‡	.....	.....	63	17.2	67	E	.....	.....	3	.....	8	.....	.....	.....	.....	Smooth	ESE	Fair.....	
Rio Bravo, Brownsville, Texas.....	29.92	760.0	71	21.7	69	20.6	95	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Santee, Annapolis, Md	29.99‡	761.7‡	.....	.....	52	11.1	86	SW	.....	.....	2	.....	.....	.....	WSW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.91	759.7	60	15.6	39	3.9	100	WSW	7	3.1	.....	.....	8	.....	W	0.05	1.3	.....	.....	Cloudy.....	
Supply, Off Funchal, Madeira ...	30.09‡	764.3‡	.....	.....	61	16.1	77	Calm	.....	.....	0	.....	2	.....	W	.....	.....	Smooth	.....	Clear.....	
Trenton Villafranca, France *...	30.10‡	764.5‡	.....	.....	63	17.2	83	SE	.....	.....	0–1	.....	2	.....	S;E	0.1	3	.....	.....	Fair	
Tuscarora, N. 9° 39′, W. 86° 41′.....	29.90‡	759.4‡	.....	.....	76	24.4	86	NW	.....	.....	2	.....	0	.....	.....	0	0	Mod'ate	.....	Clear.	
Wabash, Boston, Mass.....	29.88‡	758.9‡	.....	.....	42	5.6	83	SW	5	2.2	.....	.....	10	.....	.....	.....	.....	.....	.....	Light rain...	
Wyoming, N. 36° 35′, E. 21° 14′.....	30.38	771.6	66	18.9	56	13.3	87	SSE	.....	.....	3–4	.....	2	.....	SE	.....	.....	Smooth	SE	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

*The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; correction applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Granada																			Capt. A. Fuller.
S. S. Wilmington																			R. C. Ghest, 1st Officer
S. S. Zealandia, Sydney, Australia		30.05	763.3				Calm			0		0						Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 32° 44′, W. 149° 30′		30.25*	768.3*	62	16.7	83	E			2		ks		E		Mod'ate	N	D. clouds	J. A. Thompson, 2d Off.
S. S. Gaelic, N. 38° 44′, W. 125° 30′		29.99†	761.7†	49	9.4	??	N			5		k		N	Blank	Swell	NW	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch, Off Dungeness, Eng		30.27	768.8	35.0	1.7	100	ESE			5		10		ESE		Smooth	ESE	Hazy	
S. S. Leipzig																			L. Jahns.
S. S. Nürnberg																			Capt. F. Pfeiffer.
S. S. Ohio																			Capt. A. Jaeger.
																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, St. George's Channel, Eng	.....	30.30*	769.6*	38	3.3	90	Calm	.....	.....	0	.....	0	.....	.....	0	.....	.....	.....	Captain Sargent.
S. S. Ohio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Captain Morrison.
S. S. Pennsylvania, Capt. Harris	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian. N. 34° 05', W. 21° 26'	.....	30.49*	774.4*	45	7.2	.....	E	.....	.....	4	.....	8	.....	E	0	Mod'ate	E	D. clouds	Capt. W. Richardson.
S. S. Hibernian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller, N. 39° 20', W. 73° 26'	.....	30.00	762.0	49	9.4	85	SW	12	5.4	.....	.....	Fog	.....	.....	0	Swell	SW	Foggy	Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 29, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.22	767.6	59.0	15.0	85	W	.....	.....	1	.....	8	.....	.....	0.394	10.0	Very cloudy	
Nemours	.....	.....	30.07	763.8	57.6	14.2	70	S	.....	.....	3	.....	10	.....	.....	0	0	Covered.....	Kesxuche.
Algiers	.....	.....	29.99	761.7	58.6	14.8	70	NE	.....	.....	2	.....	5	.....	.....	Inap.	Inap.	Cloudy.....	Touriliere.
La Calle	.....	.....	30.05	763.3	62.6	17.0	80	E	.....	.....	3	.....	2	.....	.....	0	0	Fair.....	Foufrede.
Tunis	.....	.....	30.04	763.1	61.0	16.1	65	NNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.09	764.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.01	762.2	57.6	14.2	37	SW	.....	.....	6	.....	10	.....	.....	0	0	Covered.....	Herbin.
Tebessa	.....	.....	30.13	765.4	55.0	12.8	29	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.02	762.6	51.8	11.0	100	S	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	Brugniaux.
Laghouat	.....	.....	30.13	765.4	58.3	14.6	35	SW	.....	.....	3	.....	2	.....	.....	0	0	Fair...	Bertrand.
Biskra	.....	.....	30.07	763.8	64.2	17.9	56	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.68	753.9	30.26	768.7	32.4	0.2	92	NE	.....	.....	2	.....	10	.....	.....	0.264	6.7	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.59	751.5	30.41	772.3	28.0	— 2.2	96	NE	.....	.....	3	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.37	746.0	30.30	769.5	33.8	1.0	81	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.97	735.8	30.28	769.2	34.3	1.3	90	S	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	Andreas Rospini.
Hermannstadt	28.80	731.5	30.34	770.6	23.7	— 4.6	88	SSE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.83	732.3	30.26	768.5	28.0	— 2.2	98	ENE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.29	743.9	30.35	771.0	22.3	— 5.4	98	NE	.....	.....	1	.....	10	.....	.....	0.020	0.5	.....	Dr. T. Stanecki.
Pola	30.02	762.4	30.13	765.3	51.8	11.0	85	W	.....	.....	1	.....	9	.....	.....	0.697	17.7	.....	I.R.Hydrographic Office.
Szathmar	29.84	757.9	30.33	770.3	29.5	1.4	78	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.98	761.6	30.28	769.1	33.6	0.9	94	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.04	763.1	30.15	765.7	50.7	10.4	74	E	.....	.....	1	.....	10	.....	.....	0.228	5.8	Raining.....	P. Busin.
Vienna	29.56	750.8	30.32	770.2	28.9	— 1.7	100	Calm	.....	.....	0	.....	10	.....	.....	0.039	1.0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet: Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.45	773.4	30.55	776.0	35.6	2.0	.....	SE	24	10.7	.....	.....	9	.....	.....	0.030	0.76	Squally.....	W. Boswell.
Ardrossan	30.41	772.4	30.42	772.6	35	1.7	.....	ESE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	William McNeil.
Armagh, Observatory	.....	.....	30.34	770.6	34.5	1.4	.....	E	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.34	770.6	32.2	0.2	.....	E	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.34	770.6	31.0	— 0.6	.....	E	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.96	761.0	30.36	771.1	31.9	— 0.1	.....	NE	.....	.....	0	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	* 79.5	26.4	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.31	769.9	34.0	1.1	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	H. Todd. [C.
Cardington	.....	.....	30.41	772.4	34.0	1.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.12	765.0	30.26	768.6	33.7	0.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	Corpl. Daly, R. E.
Dartmoor	28.56	725.4	30.12	765.0	27.4	— 2.6	.....	NE	.....	.....	6	.....	7	.....	.....	.....	.....	Squally.....	Alexander Watt.
Donaghadee	30.33	770.4	30.37	771.4	35	1.7	.....	SSE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.21	767.3	30.24	768.1	35	1.7	.....	E	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	J. Costello.
Falmouth, Observatory	29.93	760.2	30.17	766.3	36.1	2.3	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.30	693.4	29.62	752.3	39.5	37.5	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. S. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.62	752.3	29.85	758.2	88	31.1	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds..	
Galway, Queen's College	.....	.....	30.18	766.6	37	2.8	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.85	758.2	29.90	759.4	58.9	14.9	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.22	767.6	30.42	772.6	35.0	1.7	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.30	769.6	30.31	769.9	34	1.1	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Hailing.....	G. T. Watson.
Greenwich, Royal Obs'y	30.08	764.0	30.26	768.6	33.4	0.8	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	The Staff, for G. B. Airy
Guernsey	29.92	760.0	30.15	765.8	36	2.2	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	Dr. S. E. Hoskins, F.R.S
Holyhead	30.09	764.3	30.21	767.3	37	2.8	.....	NE	.....	.....	4	.....	10	.....	.....	0	0	Misty.....	M. P. Moyle.
Jersey	30.26	768.6	30.31	769.9	34	1.1	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	John Tilston.
Kew, Observatory	29.85	758.2	30.15	765.8	34.8	1.6	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	J. Fisher.
Leicester, Museum	30.23	767.8	30.27	768.8	34.2	1.2	.....	NE	15	6.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	The Staff.
Malta, (Mediterranean)	30.05	762.3	30.32	770.1	33.1	0.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Nairn	29.92	760.0	30.00	762.0	61	16.1	.....	SE	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nassau, (Bahamas)	30.41	772.4	30.50	774.7	36	2.2	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nottingham, Observatory	.....	.....	30.27	768.8	71.5	21.9	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Oscott, St. Mary's College	30.15	765.8	30.35	770.9	33.0	0.6	.....	NE	.....	.....	2	.....	10n	.....	.....	0.014	0.36	Snowing.....	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y	29.76	755.9	30.32	770.1	31.5	— 0.3	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing.....	Rev. Stephen Whitty.
Plymouth	.....	.....	30.30	769.6	32	0.0	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Roche's Point	30.10	764.5	30.18	766.6	33.4	0.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Saint Ann's Head	30.09	764.3	30.15	765.8	38	3.3	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	W. Kennedy.
Sandwick Manse, (Orkneys)	30.07	763.8	30.24	768 1	33	0.6	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John C. Walker.
Scutari, Cemetery, (Turkey)	.....	.....	30.65	778.5	38	3.3	.....	SE	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Sheffield	.....	.....	30.31	769.9	43.2	6 3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	W. H. Lyne.
Silloth Rectory	30.09	764.3	30.39	771.9	32.0	0.0	.....	NE	.....	.....	1	.....	10	.....	.....	0.01	0.3	Overcast.....	W. F. Cooper.
Stonyhurst Observatory	30.38	771.6	30.40	772.1	33.5	0.8	87	SE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	Francis Redford, A. M.
Stratfield Turgiss	29.96	761.0	30.36	771.1	32.0	0.0	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Thurso	30.04	763.0	30.27	768.8	32.7	0.4	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. H. Griffith, F.M.S
Truro, Royal Institution	30.50	774.7	30.56	776.2	39	3.9	.....	SE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	John Trotter.
Valencia, Observatory	.....	.....	30.18	766.6	34	1.1	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Sub-Series.	30.11	764.8	30.14	765.5	39.8	4.3	.....	E	29	13.0	.....	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
Hobart Town, (Tasmania)	.....	.....	29.82	757.4	62	16.7	78	S	.....	.....	3	.....	10k	.....	.....	0	0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.49	774.4	35.0	1.7	.....	E	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.72	754.9	29.90	759.5	82.4	28.0	61	E	13.5	6.0	.....	1	4	.....	E	0.07	1.8	Fine.....	C. Meldrum.
Melbourne, Observatory	29.71	754.6	29.80	756.9	71.0	21.7	69	SSW	2	0.9	.....	0	0	.....	.....	0	0	Hazy.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.46	773 7	44	6.7	.....	ESE	.....	.....	4	5	10	SE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.64	778.2	41	5.0	.....	S	.....	.....	3	7	3	S	.....	0	0	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity Miles per hour.	Wind. Velocity Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.24	666.5	29.96	761.0	64.0	17.8	82	NE	.....	.....	2	1cs	2ks	SE	NE	0	0	Fair	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.																			
Copenhagen	30.53	775.5	30.58	776.7	24.8	— 4.0	95	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Fanöe	30.53	775.4	30.55	775.9	26.8	— 2.9	87	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	30.37	771.5	30.42	772.6	18.7	— 7.4	89	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Farõe)	30.57	776.5	30.61	777.4	39.9	4.4	92	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	
Vestervig	30.40	772.1	30.57	776.4	25.3	— 3.7	89	SE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.																			
Alençon, Normal School	29.60	751.7	30.15	765.7	33.8	1	81	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.08	764.0	30.20	767.0	34.2	1.2	78	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.00	762.1	30.08	764.1	49.5	9.7	84	NW	.....	.....	1	.....	8n	.....	SE	0.028	0.7	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	29.56	750.8	30.14	765.6	42.3	5.7	83	SE	.....	.....	1	.....	5kn	.....	.....	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.91	759.7	30.21	767.3	34.7	1.5	78	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frer Eugene Marie, Dir.
Besançon, Normal School	29.23	742.5	30.16	766.0	41.5	5.3	80	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Carre, Director.
Bourg-en-Bresse, N. School	29.22	742.3	30.14	765.5	38.3	3.5	97	W	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.77	756.2	30.02	762.4	36.3	2.4	82	E	.....	.....	2	.....	10	.....	E	0	0	Misty	M.de Rermaur, Director
Carcassonne, Normal School	29.60	751.8	30.02	762.4	57.9	14.4	71	ENE	.....	.....	1	.....	5	W	SW	0	0	Cloudy	September, Director.
Caen, Normal School	30.06	763.4	30.13	765.3	35.2	1.8	74	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.52	749.9	30.12	765.0	31.6	— 0.2	92	ENE	.....	.....	3	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.85	758.1	30.18	766.6	35.6	2.0	81	SE	.....	.....	1	.....	10	.....	.....	0.004	0.1	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.68	728.4	30.07	763.6	46.6	8.1	86	N	.....	.....	1	.....	5	.....	.....	0.071	1.8	Cloudy	Allnard, Director.
Commercy, Normal School	29.32	744.8	30.23	767.8	34.0	1.1	93	E	.....	.....	2	.....	10kn	.....	E	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.91	734.2	30.05	763.2	47.8	8.8	76	SE	.....	.....	4	.....	10	.....	SE	0.102	2.6	Covered	M. Kina, Director.
Grenoble, Normal School	29.18	741.2	29.98	761.4	37.4	3	86	ENE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.84	758.0	30.06	763.6	40.3	4.6	97	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director
Le Mans, Normal School	29.82	757.3	30.14	765.6	34.0	1.1	88	SE	.....	.....	3	.....	8	.....	NE	0	0	Very cloudy	Pourrier, Director
Lons-Le-Saulnier, N.School	29.19	741.5	30.15	765.7	38.3	3.5	97	ENE	.....	.....	1	.....	10	.....	.....	0.008	0.20	Foggy	Baudry, Director.
Lorient, Naval Observatory	30.00	761.9	30.10	764.4	34.9	1.6	89	ENE	.....	.....	3	.....	.....	.....	NE	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.08	738.7	30.17	766.2	37.2	2.9	71	SE	.....	.....	1	.....	kn	.....	NW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.88	758.9	30.09	764.2	48.6	9.2	76	SE	.....	.....	2	.....	10	.....	SE	0.098	2.5	Covered	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.07	636.8	.....	.....	32.5	0.3	96	S	.....	.....	3	.....	.....	.....	.....	0	0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.98	761.6	30.02	762.4	45.7	7.6	97	ENE	.....	.....	1	.....	10	ENE	ENE	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.10	764.4	30.18	766.6	34.9	1.6	69	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.08	764.0	30.11	764.8	35.2	1.8	76	E	.....	.....	2	.....	10	ESE	ESE	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.98	761.6	30.15	765.8	35.4	1.9	83	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.93	734.9	30.03	762.8	50.0	10	50	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.36	745.8	30.10	764.6	42.8	6	91	N	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.47	12.	.....	L'Abbé March al.
Lyons, Observatory	.....	.....	30.11	764.9	43.7	6.5	73	ESE	.....	.....	1	.....	6	.....	.....	0	0	Ligh mist	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.87	631.6	30.18	766.6	37.4	3.0	68	N	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.11	764.7	57.2	14.0	67	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.87	758.6	.....	.....	34.3	1.3	87	ENE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Marié Davy, Director.
Perpignan	29.90	759.4	30.00	762.1	53.1	11.7	81	SE	11.2	5.0	.....	.....	3	.....	S	0.280	7.1	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.35	567.6	.....	.....	29.8	— 1.2	.....	S	.....	.....	2	.....	1	.....	.....	0	0	Clear	Gen'l de Nansouty.
Toulouse, Observatory	29.27	743.5	29.99	761.8	52.2	11.2	80	SSE	.....	.....	4	.....	6	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	29.84	757.9	30.04	762.9	36.0	2.2	93	E	.....	.....	2	.....	10	.....	.....	0	0	Misty	Cousin-Marquet.
Versailles Observatory	.....	.....	30.13	765.3	34.2	1.2	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Light fog	Dr. A. Bérnay, Director
Zi-Ka-Wei, (near Shanghai)	30.07	763.6	30.09	764.2	45.3	7.4	94	.....	14.5	6.5	.....	.....	10n	.....	.....	0.685	17.4	Covered	Marc Deche vrens, S. J
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.39	746.6	30.24	768.2	29.8	— 1.2	84	ESE	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	30.28	769.0	30.46	773.6	31.8	— 0.1	91	E	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.87	758.7	30.41	772.4	31.3	— 0.4	88	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.81	757.1	30.26	768.6	32.7	0.4	92	NE	.....	.....	1	.....	10	E	.....	0	0	.....	Albert Senz.
Cassel	29.69	754.0	30.30	769.6	32.0	0.0	85	ENE	.....	.....	1	.....	10	E	.....	0	0	.....	Dr. H. Möhl.
Crefeld	30.10	764.5	30.26	768.6	34.5	1.4	75	E	.....	.....	2	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	31 3	— 0.4	77	E	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.90	759.4	30.28	769.1	32.0	0.0	.....	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.71	729.1	30.21	767.3	33.8	1.0	75	WSW	.....	.....	5	.....	4	NE	.....	0	0	.....	M. Wilhelm.
Hamburg	30.41	772.3	30.48	774.1	30.7	— 0.7	86	E	.....	.....	4	.....	9cs	.....	.....	0	0	.....	Captain F. Hegemann
Kiel	30.50	774.6	30.51	775.0	31.3	— 0.4	95	E	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.43	772.9	30.52	775.2	20.7	— 6.3	87	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.47	774.0	31.8	— 0.1	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.93	760.2	30.38	771.6	29.1	— 1.6	88	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Light snow.	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.52	775.1	30.56	776.3	21.4	— 5.9	85	E	.....	.....	1	.....	10n	.....	.....	.....	.....	Light snow.	Skalweit.
Neufahrwasser	30.50	774.8	30.52	775.2	30 7	— 0.7	79	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	30.20	767.1	30.51	774.9	30.2	— 1.0	74	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.67	753.5	30.25	768.3	34.2	1.2	93	NNE	.....	.....	2	.....	10	NE	.....	0	0	.....	Imp. University Observatory.
Stuttgart	29.23	742.4	30.22	767.6	32.4	0.2	92	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.68	728.4	30.28	769.0	28.8	— 1.8	90	ESE	2	1	.. ..	.... ..	10	.....	.....	0	0	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.52	775.1	30.54	775.7	30.9	— 0.6	92	SE	.....	.....	2	.....	10s	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.90	759.4	30.30	769.5	50.7	10.4	.....	NE	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.94	760.4	29.99	761.8	73.9	23.3	56	WNW	10.0	4.5	.....	.....	4	WNW	.....	0	0	D. clouds	
Deesa	29.46	748.2	29.94	760.4	80.2	26.8	31	WNW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.87	758.7	29.91	759.7	78.5	25.8	68	NNW	19.0	8.5	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.91	708.9	29.91	759.6	80.4	26.9	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.22	742.1	29.99	761.7	64.4	18.0	35	Calm	0.6	0.3	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.38	695.4	29.91	759.6	78.9	26.1	45	Calm	0	0	.....	.....	1	.....	.....	0	0	D. clouds	
Roorkee	29.00	736 7	29.93	760.1	67.8	19.9	18	NW	1.9	0.8	.....	.....	0	.....	.....	0	0	.....	
Agra	29.39	746.6	29.98	761.4	68.7	20.4	39	N	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.86	733.1	29.90	759.4	80.6	27.0	35	Calm	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	
Lucknow	29.57	751.2	29.96	760.9	68.6	20.3	28	Calm	0.2	0.1	.....	.....	0	.....	.....	0	0	Blue sky	
Allahabad	29.64	752.8	29.96	761.0	66.3	19.1	48	Calm	0.8	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.76	755.8	29.94	760.5	70.1	21.2	49	W	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.90	708.6	29.95	760.8	69.0	20.6	24	NW	5.2	2.3	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.85	758.1	29.93	760 2	80.0	26.7	50	SSW	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.93	760.2	29.95	760.7	69.7	20.9	61	WSW	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.55	750.4	29.95	760.7	67.9	19.9	45	Calm	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.80	756.9	29.90	759.3	68.8	20.4	79	Calm	5.2	2.3	.....	.....	0	.....	.....	0	0	Blue sky	
Sibsagar	29.63	752.7	29.98	761.6	61.3	16.3	91	S	2.1	0.9	.....	.....	0	.....	.....	0	0	.....	
Jubbulpore	28.58	725.9	29.98	761.4	70.8	21.6	46	Calm	2.1	0.9	.....	.....	10	SW	SW	0.45	11.4	Gloomy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,952.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,015 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. ..ow'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.74	755.4	30.16	766.1	47.7	8.7	77	Calm	0	0	.....	.....	10	.....	.....	0.276	7.0	.....	Prof. Giovanni Clodig.
Padua	30.03	762.8	30.15	765.7	49.6	9.8	82	NNE	4.9	2.2	.....	.....	10	NE	.....	0.386	9.8	.....	Prof. Dott. Lorenzoni
Milan	29.62	752.3	30.16	766.0	47.3	8.5	92	WSW	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.25	743.0	30.19	766.9	47.1	8.4	99	SW	.....	.....	4	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.20	716.2	30.17	766.4	48.9	6.6	88	WNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.92	759.9	30.11	764.9	50.5	10.3	69	N	3.1	1.4	.....	.....	0	.....	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Florence	29.84	757.8	30.10	764.5	55.4	13.0	50	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	Cav. F. Meucci
Leghorn	29.99	761.7	30.07	763.8	53.6	12.0	69	ENE	6.9	3.1	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.10	764.4	30.15	765.7	47.1	8.4	94	N	3.8	1.7	.....	.....	10	.....	.....	0.126	3.2	.....	Prof. Luigi Guidi.
Rome	29.88	759.0	30.06	763.5	46.4	8.0	99	N	8.1	3.6	.....	.....	10	.....	.....	0.374	9.5	.....	Prof. P. S. Ferrari.
Lecce	29.93	760.1	30.19	766.7	52.7	11.5	84	SSW	11.9	5.3	.....	.....	10	.....	.....	0.047	1.2	.....	Prof. C. De Giorgi.
Cagliari	29.80	756.8	29.99	761.7	57.4	14.1	69	SE	.....	.....	4	.....	9	E	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.20	741.7	30.11	764.8	52.9	11.6	77	SW	0	0	.....	.....	10	.....	.....	0.622	15.8	.....	Prof. D. Conti.
Palermo	29.71	754.5	29.96	761.0	57.4	14.1	71	NE	0.7	0.3	.....	.....	7	.....	.....	0.713	18.1	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.3	30.01	762.2	55.4	13.0	84	SE	1.8	0.8	.....	.....	10	S	.....	0.012	0.3	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.49	749.0	30.04	763.1	57.0	13.9	73	ESE	4.3	1.9	.....	.....	10	.....	.....	0.343	8.7	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.38	771.6	30.40	772.1	38.7	3.7	79	N	3.4	1.5	.....	.....	5cs	.....	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.26	768.6	49.9	9.9	65	ENE	7.5	3.3	.....	.....	10;n;s;ck	.....	.....	0.240	6.10	Light rain	S. Takehayashi.
Tokei (Yeddo) Observatory	30.42	772.6	30.49	774.4	33.7	0.9	88	ENE	2.5	1.1	.....	0	0	.....	.....	0.025	0.63	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.15	638.9	30.36	771.0	43.2	6.2	53	SW	.....	.....	1	8cs	0	SW	.....	0	0	Misty	Prof. L. Perez
Leon	24.52	623.0	30.21	767.4	52.0	11.1	74	S	.....	.....	1	1c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.7	30.34	770.6	43.7	6.5	99	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	44.8	7.1	57	N	.....	.....	1	5cs	0	.....	.....	0	0	⅛ clouded	M. V. de Leon, M. E
Tlacotalpam	30.05	763.3	30.06	763.6	72.9	22.7	95	NE	.....	.....	1	0	10	.....	NE	0.039	1.0	Threatening	M. M. Cházaro.
San Luis Potosi	24.32	617.7	30.27	768.9	45.0	7.2	50	ESE	.....	.....	1	5	0	N	.....	0	0	⅛ clouded	G. Barroeta, M. D.
Vera-Cruz	30.12	765.0	30.15	765.7	75.3	24.0	83	Calm	.....	.....	0	2c	6kn	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	22.59	573.7	.....	.....	53.6	12	52	SE	.....	.....	2	7	0	S	.....	0	0	⅛ clouded	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.42	594.9	30.17	766.4	42.8	6.0	79	N	0	0	.....	.....	2	.....	Calm	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.43	722.0	30.11	764.7	70.5	21.4	54	NE	.....	.....	1	0	1	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.94	760.6	30.08	764.0	74	23.3	.....	N	.....	.....	1	7n	3n	.....	.....	0.047	1.2	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6219.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.30	769.6	30.30	769.6	32.4	0.2	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.36	771.1	30.41	772.5	30.6	— 0.8	.....	ENE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	30.35	771.0	30.35	771.0	30.6	— 0.8	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.28	769.2	30.28	769.2	32.0	0.0	96	ENE	.....	.....	3	.....	.....	.....	.....	0.004	0.1	Overcast	H. v. d. Brink.
Utrecht	30.28	769.0	30.32	770.2	31.8	— 0.1	85	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.54	775.7	30.56	776.1	52.0	0.0	81	S	1.1	0.5	.....	.....	0	.....	.....	0	0	....	
Bröno	30.48	774.2	30.52	775.2	39.2	4.0	87	SSW	18	8	.....	.....	10	.....	.....	.....	.....	Light rain .	
Christiania	30.48	774.3	30.64	778.3	25.2	— 3.8	89	E	.....	.....	.....	.....	0	.....	.....	0	0	Foggy	
Tromsö	29.79	756.7	29.84	757.8	38.5	3.6	83	SSW	29	13	.....	.....	10	.....	.....	0.150	3.8	Light rain...	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.37	745.9	29.56	750.8	56.5	13.6	86	SW	11.2	5.0	.....	.....	6	.....	.....	0.650	16.5	.....	Dr. J. A. Sampaio.
Campo Major	28.91	734.4	29.96	761.0	49.6	9.8	79	ESE	1.3	0.6	.....	.....	7	WNW	.....	0	0	....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.98	761.5	30.07	763.7	61.7	16.5	54	W	4.9	2.2	.....	.....	10	.....	.....	0	0	....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.58	751.3	29.95	760.7	48.9	9.4	84	NE	3.8	1.7	....	.....	8	.....	.....	0.315	8.0	Hailing.....	The Staff.
Ponta Delgada, (Azores)	29.53	750.0	29.60	751.8	58.6	14.8	91	W	24.8	11.1	....	.....	10	.....	.....	0.835	21.2	Raining.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—			
Bartholomew Dias	.....	.....	.....	R. A. T. Pinto, Com'd'r
D. Fernando	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa. Porto de S. Jose de Bissao, Senegambia	.....	.....	.....	
Sá da Bandeira, S. 10° 20', E. 12° 55'	1	ENE	Blue sky.....	A. Ferreira, 2nd Lt.
Sado	2	SW	Blue sky.....	F. Teixeira da Silva, Com'd't.
Tejo, Macao, China	1	.....	Overcast.....	L. Ribeiro de Costa, Com'd't.
.....	.....	.....	.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirâ gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	30.00	761.9	30.45	773.5	24.3	— 4.3	86	N	4	2	.....	.....	10n	.....	.....	.....	.....	Light snow.	Astronomical Obs.
Wilna	30.09	764.2	30.55	776.0	7.9	—13.4	83	E	2	1	.....	.....	2	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	30.41	772.4	30.69	779.5	— 2.4	—19.1	81	SE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.66	778.7	30.67	779.1	— 0.6	—18.1	89	S	7	3	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.81	757.1	30.52	775.3	3.4	—15.9	90	SE	4	2	.....	.....	7c;ck;ka	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	.....	.....	.....	.....	13.6	—10.2	76	NE	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.44	773.2	30.46	773.7	23.7	— 4.6	93	NE	9	4	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.21	767.2	30.84	783.2	— 1.1	—18.4	89	E	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.37	771.4	30.60	777.1	10.8	—11.8	64	ENE	18	8	.....	.....	4c	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.17	767.3	30.23	767.8	11.5	11.4	89	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.84	732.6	30.34	770.6	33.4	0.8	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.	Physical Observatory
Astrakhan	30.70	779.9	30.62	777.8	17.2	— 8.2	65	ENE	11	5	.....	.....	7ck;s	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	30.29	769.4	30.84	783.4	— 9.4	—23.0	65	W	2	1	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.48	774.2	30.79	782.1	— 2.6	—19.2	91	SSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.50	749.4	30.59	776.9	1.6	—16.9	64	W	16	7	.....	.....	1cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light clouds	
Tashkend	28.69	728.8	30.52	775.2	28.0	— 2.2	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	....	Teich, A. M.
Barnaul	30.10	764.4	30.71	780.1	—17.1	—27.3	88	SW	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	30.01	762.3	30.54	770.5	3.4	—15.9	80	SSW	11	5	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.33	770.3	30.47	773.9	22.3	— 5.4	39	NW	31	14	.....	.....	0	.....	.....	.....	.....	....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Nikolaievsk, on the Amoor	30.04	762.9	30.12	765.1	—15.5	—26.4	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	30.04	762.9	51.3	10.7	76	ENE	2.6	1.17	.....	.....	2k	.....	.....	0.553	14.04	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.88	758.9	29.94	760.4	58.6	14.8	63	SE	1.4	0.62	.....	2	3	SW	.....	0.012	0.3	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.94	684.2	.....	.....	46.9	8.3	75	NE	4.6	2.04	.....	.....	7	.....	.....	0	0	Cloudy.....	Domingo Martiny Perez.
Madrid, Royal Observatory	27.68	703.1	.....	.....	42.4	5.8	92	SE	3.7	1.67	.....	.....	10	.....	.....	0.028	0.7	Raining	The Staff.
Murcia, Met. Obs'y	29.82	757.3	29.97	761.2	53.8	12.1	80	NE	1.2	0.56	.....	5	5	NW	.....	0.702	17.83	Covered.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.99	736.3	29.89	759.3	51.4	10.8	65	NW	6.9	3.1	.....	.....	4	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.18	766.6	30.25	768.3	70.1	21.2	87	ENE	1.1	0.5	.....	0	1k	E	.....	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.6	29.92	760.0	81.9	27.7	72	SE	3.4	1.5	.....	1c	0	E	.....	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.2	29.99	761.8	57.0	13.9	77	W	7.8	3.5	.....	0	9	.....	W	0.759	19.3	Raining	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.04	763.0	30.13	765.3	74.8	23.8	89	E	5.7	2.56	.....	4k	3kn	E	E	0.246	6.25	Cloudy . .	Leonardo de Tejeda, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.18	766.6	30.22	767.6	16.2	— 8.8	.....	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	
Umea	30.36	771.2	30.41	772.5	20.5	— 6.4	100	SW	.....	.....	2	.....	9	.....	.....	0.039	1.0	.....	
Hernosand	30.47	773.9	30.52	775.2	27.9	— 2.3	85	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Stockholm	30.42	772.6	30.60	777.1	22.1	— 5.5	96	Calm	.....	.....	0	.....	10	.....	.....	0	0	Foggy	
Wisby	30.44	773.2	30.50	774.7	29.8	— 1.2	92	E	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.50	774.7	30.58	776.6	22.6	— 5.2	96	SSW	0	0	.....	.....	10	.....	.....	0.00	0.01	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.72	729.5	30.22	767.5	32.2	0.1	94	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.52	724.5	30.25	768.3	30.2	1.0	97	NW	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.3 mm.; Thermometer, —2.0 cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the cooperation of A. Comnbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.37	771.3	41.2	5.1	61	NNE	7	3.0	.....	.....	9	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.18	766.5	55.6	13.1	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.07	763.8	30.19	766.7	57.9	14.4	51	NE	.....	.....	1	.....	8ks	.....	NE	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.97	761.2	30.04	763.0	20.1	— 6.6	79	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	30.10	764.5	30.44	773.2	8	—13.3	.....	Calm	0	0	.....	0	2s	.....	N	0	0	Clear.	W. R. Bigg.
*Chatham, N. B	29.96	761.0	30.03	762.8	20	— 6.7	82	NW	14	6.3	.....	.....	10ks	.....	NW	0.10	2.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	28.88	758.9	27	— 2.8	95	N	8	3.6	.....	.....	10n	.....	Calm	0.100	2.54	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	30.20	767.1	30.41	772.4	10.8	—11.8	94	NW	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C.	30.22	767.6	30.27	768.8	39.1	3.9	92	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	W. H. Bevis.
*Father Point, Quebec	30.16	766.1	30.18	766.6	14	—10.0	66	NW	20	8.9	.....	.....	10s	.....	Calm	0.05	1.5	Cloudy	J. McWilliams.
Fredericton, N. B.	30.01	762.2	30.07	763.8	22.1	— 5.5	73	NW	8	3.6	.....	.....	10s	.....	.....	0	0	Overcast	Prof. Harrison.
*Fort Garry, Manitoba	29.29	744.0	30.23	767.8	— 4	—20.0	97	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	James Stewart.
Granton, Ontario	29.23	742.4	30.43	772.9	16	— 8.9	.....	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	James Grant.
*Halifax, N. S.	29.70	754.4	29.84	757.9	33	0.6	99	NW	6	2.7	.....	.....	10n	.....	NW	0.48	12.2	Cloudy	F. Allison, M. A.
Hamilton, Ontario	30.06	763.5	30.45	773.4	23.5	— 4.7	72	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	Geo. Dickson, M. A.
Heart's Content, N. F.	30.07	763.8	30.10	764.5	25	— 3.9	100	SE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	30.05	763.3	30.42	772.6	12	—11.1	80	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.	S. Woods, M. A.
Little Glace Bay, N. S.	29.76	755.9	29.80	756.9	30.2	— 1.0	99	SE	7	3.1	.....	.....	10n	.....	Calm	0.30	7.6	Snowing	C. H. Rigby.
Moose Factory, Ontario	30.26	768.6	30.30	769.6	9.8	—23.2	78	SW	.....	.....	1	1cs	0	.....	.....	0	0	Clear.	J. R. Nason.
*Montreal, Quebec	30.18	766.6	30.40	772.1	6	—14.4	76	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.71	754.6	30.50	774.7	— 1	—18.3	70	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.62	752.8	30.43	772.9	25.3	— 3.7	80	N	.....	.....	.....	0	0	.....	.....	.....	.....	Clear.	J. F. Jeffers, B. A.
Port Dover, Ontario	29.68	753.9	30.43	772.9	22	— 5.6	85	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.	H. Morgan.
Port Hastings, N. S.	29.73	755.1	29.78	756.4	30.7	— 0.7	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Cloudy.	Peter Grant.
Port Stanley, Ontario	29.71	754.6	30.41	772.4	17	— 8.3	93	N	.....	.....	.....	0	0	.....	.....	0	0	Clear.	M. Payne.
*Quebec, Quebec	29.94	760.5	30.30	769.6	7	—13.9	54	N	.....	.....	3	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.98	761.5	30.51	774.9	— 5	—20.6	85	NW	3	1.3	.....	.....	.....	8s	NW	Inap.	Inap.	Cloudy	W. H. McIntyre.
St. Andrews, N. B.	29.98	761.5	30.03	762.8	25	— 3.9	88	NW	.....	.....	1	.....	10ks	.....	NE	0.04	1.0	Cloudy	Dr. Gove.
St. John, N. B.	29.84	757.9	30.01	762.2	25	— 3.9	87	NW	14	6.3	.....	.....	9k	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.69	754.1	30.47	773.9	13	—10.6	100	NE	0?	0?	.....	2cs	0	.....	.....	0	0	Clear.	K. Stewart.
Stayner, Ontario	29.63	752.6	30.49	774.4	16	— 8.9	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	R. J. Cole.
Stratford, Ontario	29.05	737.9	30.44	773.2	17.0	— 8.8	95	NW	1	0.4	.....	.....	0	.....	.....	0	0	Clear.	C. J. MacGregor, M. A.
*Sydney, C. B.	29.79	756.7	29.83	757.7	31	— 0.6	97	E	1	0.4	.....	.....	10n	.....	.....	0.12	3.0	Light snow.	T. C. Hill.
*Toronto, Ontario	30.03	762.8	30.45	773.4	21	— 6.1	84	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	Magnetic Observatory.
Windsor, N. S.	29.78	756.4	29.88	758.9	30.0	— 1.1	100	.....	.....	.....	.....	.....	10n	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	27.0	— 2.8	100	NE	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er. 0—10.	Cloud. Amount. Low'r. 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.01	762.2	30.25	768.3	30	— 1.1	68	NW	20	8.9	.....	1cs	5s	NW	NW	0	0	Fair	
Alpena, Michigan	29.75	755.6	30.46	773.7	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	29.12	739.6	30.26	768.6	63	17.2	94	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Atlantic City, New Jersey	30.23	767.8	30.25	768.3	37	2.8	100	N	7	3.1	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Augusta, Georgia	30.08	764.0	30.26	768.6	59	15.0	94	SW	2	0.9	.....	2cs	2s; fg	W	NE; Calm	0	0	Fair	
Baltimore, Maryland	30.26	768.6	30.31	769.9	44	6.7	60	NW	4	1.8	.....	.....	10s	.....	NW	0.08	2.0	Cloudy	
Barnegat, New Jersey	30.22	767.6	30.25	768.3	35	1.7	80	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	28 39	721.1	30.24	768.1	16	— 8.9	83	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.71	729.2	30.01	762.2	65	18.3	100	SE	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Boise City, Idaho	27.60	701.0	30.56	776.2	19	— 7.2	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.01	762.2	30.18	766.6	33.5	0.8	66	N	11	4.9	.....	5k	Haze	NW	Calm	0.03	0.8	Fair	
Brackettville, Texas	29.03	737.3	30.05	763.3	66	18.9	100	E	7	3.1	.....	.....	10n	.....	E	0.05	1.3	Light rain	
Breckenridge, Minnesota	29.17	740.9	30.25	768.3	17	— 8.3	100	W	8	3.6	.....	0	0	.....	.....	0.04	1.0	Clear	
Brownsville, Texas	30.01	762.2	30.08	764.0	70	21.1	95	S	4	1.8	.....	0	8s	.....	S	0	0	Fair	
Buffalo, New York	29.65	753.1	30.40	772.1	28	— 2.2	77	N	6	2.7	.....	.....	9s	.....	N	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	47	8.3	Inap.	S	.....	.....	7	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.07	763.8	30.39	771.9	13	—10.6	62	N	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Cairo, Illinois	29.89	759.2	30.30	769.6	49	9.4	93	N	1	0.4	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.23	640.8	30.03	762.8	51	10.6	53	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	26	— 3.3	40	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.39	695.7	29.96	761.0	38	3.3	90	SW	4	1.8	.....	.....	10n	.....	SW	0.13	3.3	Light rain	
Cape Hatteras, N. Carolina	30.20	767.1	30.20	767.1	55	12.8	93	SW	4	1.8	.....	.....	10n	.....	W	Inap.	Inap.	Light rain	
Cape Henry, Virginia	30.24	768.1	30.26	768.6	41	5.0	82	N	4	1.8	.....	.....	10s	.....	NE	0	0	Threatening	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	53	11.7	100	SW	12	5.4	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Cape May, New Jersey	30.22	767.6	30.25	768.3	37	2.8	90	N	6	2.7	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Castroville, Texas	29.38	746.2	30.07	763.8	68	20.0	95	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	30.26	768.6	30.32	770.1	60	15.6	88	W	6	2.7	.....	5ck	Fog	NW	Calm	0	0	Fair	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	23	— 5.0	60	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.66	753.4	30.39	771.9	35	1.7	80	E	3	1.3	.....	Haze	9	Calm	.....	0	0	Clear	
Cincinnati Ohio	29.66	753.4	30.34	770.6	43	6.1	75	E	5	2.2	.....	.....	10ks	.....	NW	0.15	3.8	Threatening	
Cleveland, Ohio	29.68	753.9	30.46	773.7	30	— 1.1	57	E	6	2.7	.....	2ck	0	Calm	.....	0	0	Clear	
Coleman City, Texas	28.45	722.6	30.12	765.0	59	15.0	91	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.50	749.3	30.39	771.9	36	2.2	76	N	4	1.8	.....	2c	Sm'e	Calm	Calm	0.05	1.3	Fair	
Corpus Christi, Texas	28.24	717.3	29.92	760.0	58	14.4	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.75	755.6	30.22	767.6	63	17.2	94	S	3	1.3	.....	Haze	8s	Calm	S	0	0	Cloudy	
Davenport, Iowa	29.71	754.6	30.39	771.9	31	— 0.6	58	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.59	650.0	.....	.....	13	—10.6	81	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.10	739.1	30.30	769.6	50	10.0	93	NW	16	7.2	.....	.....	10s	.....	NW	0	0	Threatening	
Denison, Texas	29.47	748.5	30.28	769.1	51	10.6	93	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.96	634.0	30.18	766.6	27	— 2.8	64	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.46	748.3	30.40	772.1	27	— 2.8	76	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Detroit, Michigan	29.72	754.9	30.44	773.2	25	— 3.9	87	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.70	703.6	30.10	764.5	34	1.1	100	NE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Dubuque, Iowa	29.67	753.6	30.43	772.9	22	— 5.6	72	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.50	749.3	30.21	767.3	30	— 1.1	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.31	744.5	30.05	763.3	62	16.7	100	SE	.....	.....	1	.....	10n	.....	Calm	0.01	0.3	Light rain	
Eastport, Maine	29.97	761.2	30.04	763.0	25	— 3.9	75	NW	14	6.3	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	90	E	.....	.....	1	5c	5ks	Calm	S	0	0	Cloudy	
El Paso, Texas	26.34	669.0	.....	.....	60	15.6	64	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Erie, Pennsylvania	29.66	753.4	30.42	772.6	28	— 2.2	88	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.67	753.6	30.37	771.4	22	— 5.6	72	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Florence, Arizona	28.53	724.6	30.13	765.3	42	5.6	34	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.65	651.5	29.71	754.6	44	6.7	100	NW	5	2.2	.....	.....	10n	.....	NW	0.13	3.3	Light rain	
Fort Davis, Texas	25.30	642.6	30.26	768.6	36	2.2	71	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.75	755.6	30.31	769.9	43	6.1	92	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Graham, Texas	28.99	736.3	30.30	769.6	46	7.8	92	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.74	704.6	.....	.....	11	—11.7	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.95	709.9	29.85	758.2	64	17.8	89	E	8	3.6	.....	5k	0	E	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.11	739.4	30.27	768.8	41	5.0	91	N	17	7.6	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Stevenson, Dakota	28.37	720.6	.....	.....	4	—15.6	87	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.43	722.1	29.97	761.2	65	18.3	94	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Galveston, Texas	30.21	767.3	30.26	768.6	64	17.8	94	SE	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Graham, Texas	29.18	741 2	30.26	768.6	47	8.3	100	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.74	755.4	30.45	773.4	23	— 5.0	73	E	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.51	749.5	30.32	770.1	39	3.9	55	N	4	1.8	.....	.....	10ks	.....	W	0.05	1.3	Cloudy	
Indianola, Texas	30.21	767.3	30.23	767.8	63	17.2	94	E	7	3.1	.....	.....	10s	.....	E	0	0	Cloudy	
Jacksboro, Texas	29.09	738.9	30.25	768.3	49	9.4	93	N	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
Jacksonville, Florida	30.33	770.4	30.36	771.1	37	2.8	87	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.70	754.4	30.26	768.6	30	— 1.1	78	NE	6	2.7	.....	4c	0	W	.....	Inap.	Inap.	Fair	
Key West, Florida	30.25	768.3	30.28	769.1	70	21.1	85	NE	13	5.8	.....	2k	Fog	NE	Calm	0	0	Fair	
Kittyhawk North Carolina	30.15	765.8	30.18	766.6	43	6.1	100	NE	15	6.7	.....	.....	10s	.....	NE	0.05	1.3	Cloudy	
Knoxville, Tennessee	29.24	742.7	30.24	768.1	62	16.7	97	SW	12	5.4	.....	.....	10s	.....	SW	0.31	7.9	Cloudy	
La Crosse, Wisconsin	29.56	750.8	30.34	770.6	26	— 3.3	75	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.18	665.0	30.33	770.4	46	7.8	77	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Laredo, Texas	29.68	753.9	30.02	762.5	71	21.7	85	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
Leavenworth, Kansas	29.50	749.3	30.39	771.9	36	2.2	80	N	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.67	753.6	30.02	762.5	48.0	8.9	89	E	5	2.2	.....	.....	10n	.....	Calm	0.32	8.1	Light rain	
Louisville, Kentucky	29.72	754.9	30.29	769.4	43	6.1	83	N	5	2.2	.....	.....	10s	.....	N	0.11	2.8	Cloudy	
Lynchburg, Virginia	29.54	750.3	30.23	767.8	49	9.4	85	SE	8	3.6	.....	.....	10ks	.....	Calm	0.10	2.5	Cloudy	
Madison, Wisconsin	29.35	745.5	30.41	772.4	27	— 2.8	64	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.54	750.3	30.27	768.8	33	0.6	70	NW	13	5.8	.....	.....	10s	.....	N	0	0	Cloudy	
Mason, Texas	28.54	724.9	30.28	769.1	65	18.3	89	E	4	1.8	.....	.....	10s	.....	E	0.01	0.3	Cloudy	
Memphis, Tennessee	29.93	760.2	30.25	768.3	64	17.8	100	SW	6	2.7	.....	.....	10s; fg	.....	S; Calm	0.73	18.3	Cloudy	
Milwaukee, Wisconsin	29.64	752.8	30.40	772.1	36	2.2	71	NW	5	2.2	.....	5ck	1s	Calm	Calm	0	0	Fair	
Mobile, Alabama	30.31	769 9	30.36	771.1	63	17.2	100	S	4	1.8	.....	.....	10s; fg	.....	SW	0	0	Cloudy	
Montgomery, Alabama	30.12	765.0	30.35	770.9	64	17.8	89	SW	4	1.8	.....	.....	10ks; fg	.....	w; calm	0	0	Cloudy	
Morgantown, West Virginia	29.24	742.7	30.35	770.9	36	2.2	71	N	6	2.7	.....	.....	8ks	.....	N	0.54	13.7	Cloudy	
Mt. Washington, N. H.	23.40	594.4	29.76	755.9	1	—17.2	72	NW	73	32.6	.....	0	8ks	.....	NW	0	0	Clear	
Nashville, Tennessee	29.72	754.9	30.25	768.3	61	16.1	94	W	1	0.4	.....	.....	10s	.....	.....	0.15	3.9	Cloudy	
New Haven, Connecticut	30.12	765.0	30.24	768.1	33	0.6	75	NW	8	3.6	.....	2ck	0	W	.....	0	0	Clear	
New London, Connecticut	30.16	766.1	30.22	767.6	33	0.6	64	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.26	768.6	30.32	770.1	65	18.3	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.12	765.0	30.18	766.6	34	1.1	79	W	8	3.6	.....	0	2ks	.....	Calm	0	0	Fair	
New York, New York	30.08	764.0	30.27	768.8	37	2.8	62	NW	7	3.1	.....	2ck	2s	SW	Calm	0	0	Fair	
Norfolk, Virginia	30.19	766.8	30.25	768.3	45	7.2	84	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrumental error and temperature.		Barometer: Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
								Direction.	Velocity.			Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
	nches.	illimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	0—10	—10.	From—	From—	Inches.	Millimeters.		
North Platte, Nebraska	27.36	694.9	30.18	766.6	15	— 9.4	82	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.31	769.9	30.35	770.9	30.2	— 1.0	89	NW	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Omaha, Nebraska	29.20	741.7	30.36	771.1	34	1.1	79	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	30.03	762.8	30.38	771.6	25	— 3.9	87	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Pembina, Dakota	29.26	743.2	30.18	766.6	0	—17.8	100	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	30.23	767.8	30.28	769.1	38	3.3	63	N	14	6.3	.....	.....	10ks	.....	NW	0	0	Cloudy	
Phœnix, Arizona	28.90	734.0	30.77	781.5	40	4.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.72	449.6	29.94	760.5	1	—17.2	42	W	24	10.7	.....	0	1s	.....	Calm	0	0	Clear	
Pioche, Nevada	24.13	612.9	29.90	759.4	18	— 7.8	100	N	12	5.4	.....	.....	10s	.....	Calm	0.33	8.4	Cloudy	
Pittsburg, Pennsylvania	29.54	750.3	30.39	771.9	33	0.6	79	NW	3	1.3	.....	2c	1s	NW	NW	0.04	1.0	Fair	
Port Huron, Michigan	29.72	754.9	30.43	772.9	25	— 3.9	87	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.08	764.0	30.14	765.5	32	0.0	79	N	8	3.6	.....	2k	0	Calm	.....	0.01	0.3	Fair	
Portland, Oregon	30.33	770.4	30.43	772.9	33.0	0.6	84	NW	2	0.9	.....	0	8s	.....	.....	0	0	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.04	737.6	29.88	758.9	42	5.6	83	SE	10	4.5	.....	8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.33	770.4	30.34	770.6	64	17.8	89	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.87	758.7	30.25	768.3	35	1.7	63	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.94	760.5	30.16	766.1	69	20.6	90	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.74	755.4	30.39	771.9	29	— 1.7	78	NW	10	4.5	.....	0	7s	.....	NW	0	0	Clearing	
Roseburg, Oregon	29.78	756.4	30.39	771.9	32.0	0.0	89	S	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Sacramento, California	30.07	763.8	30.16	766.1	37.5	3.1	67	N	16	7.2	.....	0	0	.....	.....	0.02	0.5	Clear	
St. Louis, Missouri	29.75	755.6	30.35	770.9	37	2.8	81	N	8	3.6	.....	.....	10n	.....	Calm	0.29	7.4	Light rain	
St. Marks, Florida	30.35	770.9	30.37	771.4	54	12.2	100	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Foggy	
St. Paul, Minnesota	29.34	745.2	30.21	767.3	29	— 1.7	79	SE	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	
Salt Lake City, Utah	25.91	658.1	30.24	768.1	17	— 8.3	67	E	3	1.3	.....	0	2s	.....	W	0.03	0.8	Clear	
San Antonio, Texas	29.46	748.3	30.03	762.8	68	20.0	95	E	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
San Diego, California	29.94	760.5	30.02	762.5	49	9.4	100	E	12	5.4	.....	.....	10n	.....	SE	0.57	14.5	Heavy rain	
Sandusky, Ohio	29.74	755.4	30.45	773.4	35	1.7	70	E	16	7.2	.....	2c	0	NW	.....	0	0	Fair	
Sandy Hook, New Jersey	30.23	767.8	30.26	768.6	35	1.7	70	N	15	6.7	.....	8cs	0	NW	.....	0	0	Clearing	
San Francisco, California	30.09	764.3	30.16	766.1	44	6.7	60	N	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	35	1.7	100	W	3	1.3	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Savannah, Georgia	30.23	767.8	30.33	770.4	61	16.1	88	SW	4	1.8	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	30.03	762.8	30.26	768.6	67	19.4	89	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Silver City, New Mexico	24.40	619.8	30.69	779.5	40	4.4	91	S	3	1.3	.....	.....	10n	.....	Calm	0.27	6.9	Light rain	
Smithville, North Carolina	30.22	767.6	30.26	768.6	54	12.2	100	SW	3	1.3	.....	10cs	Fog	W	Calm	0	0	Cloudy	
Springfield, Massachusetts	30.07	763.8	30.21	767.3	34	1.1	52	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Stockton, Texas	27.10	688.3	30.10	764.5	52	11.1	87	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.12	765.0	30.18	766.6	32	0.0	50	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.69	754.1	30.42	772.6	31	— 0.6	79	NE	9	4.0	.....	2c	0	Calm	.....	0	0	Clear	
Tucson, Arizona	.....	.....	.....	.....	42	5.6	57	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.30	769.6	30.33	770.4	59	15.0	88	SW	5	2.2	.....	2cs	0	SW	.....	0	0	Fair	
Umatilla, Oregon	30.18	766.6	30.72	780.3	28.0	— 2.2	77	NE	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	32	0.0	100	SE	.....	.....	4	.....	10s	.....	SW	0	0	Cloudy	
Uvalde, Texas	29.24	742.7	30.04	763.0	67	19.4	95	SE	4	1.8	.....	.....	10s	.....	SE	0.02	0.5	Cloudy	
Vicksburg, Mississippi	30.08	764.0	30.34	770.6	66	18.9	100	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.41	620.0	29.89	759.2	3	—16.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.72	754.9	30.10	764.5	34.2	1.2	87	NW	2	0.9	.....	0	0	.....	.....	0.13	3.3	Clear	
Washington, D. C.	30.18	766.6	30.30	769.6	41	5.0	74	NW	6	2.7	.....	.....	10s;fg	.....	NW	0.19	4.8	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	33	0.6	61	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.15	765.8	30.23	767.8	60	15.6	94	W	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Winnemucca, Nevada	25.90	657.8	30.26	768.6	9	—12.8	78	E	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.14	765.5	30.18	766.6	34	1.1	69	NW	6	2.7	.....	.....	8ks	.....	NW	0	0	Cloudy	
Yankton, Dakota	29.02	737.1	30.39	771.9	28	— 2.2	77	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.84	757.9	30.01	762.2	47	8.3	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	28 71	729.2	30.17	766.3	42	5.6	100	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Foggy	J. B. Gordon.
Havana, Cuba, W. I.	30.21	767.3	30.26	768.6	74	23.3	76	E	1.2	0.5	.....	0	2ks	.....	E	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.22	767.6	30.23	767.8	73	22.8	81	Calm	0	0	.....	0	2s	.....	NE	0	0	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.98	761.5	30.06	763.5	78	25.6	.....	NE	17.1	7.6	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	75	23.9	95	E	.....	.....	3	.....	8ks	.....	E	0.020	0.51	Cloudy	C. J. Hering.
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.04	763.0	30.09	764.3	—33.6	—36.1	.....	NW	5	2.2	.....	.....	10n	.....	NW	0.03	0.8	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,888 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,757 (?) ft., or 626.4 (?) m.; Concho, 1,759 (?) ft., or 733.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.08	764.0	39	3.9	42	5.6	50	NNW	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.45	773.4	64	17.8	64	17.8	100	NE	1	0.4	.....	.....	Fog	.....	.....	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.20	767.1	55	12.8	30	— 1.1	78	WNW	3	1.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.44‡	773.2‡	.....	.....	35.5	1.9	80	Calm	.....	.....	0	.....	7s	....	W	0	0	.....	.....	Cloudy.....	
Alaska, N 13° 20′, W. 89° 07′.....	30.18	766.6	82	27.8	80	26.7	74	NNE	.....	.....	2	.....	2	.....	SW	0	0	Smooth	.....	D. clouds.....	
Alliance, Smyrna, Turkey.....	30.26‡	768.6‡	.....	.....	53	11.7	42	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ashuelot, Saigon, Cochin-China....	29.97	761.2	82	27.8	80	26.7	82	SE	.....	.....	1	.....	5	.....	N	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La.....	30.31	769.9	47	8.3	61	16.1	88	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.....	30.02	762.5	37	2.8	35	1.7	100	NW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Constitution, Portsmouth, England....	30.15‡	765.8‡	.....	.....	35	1.7	90	ENE	9	4.0	1	.....	10	.....	Calm	.....	.....	.....	.....	Misty.....	
Despatch, Constantinople, Turkey	30.40‡	773.2‡	.....	.....	43	6.1	68	NE	.....	.....	6	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Essex, S. 51° 15′, W. 58° 00′.....	29.15	740.4	57	13.9	43	6.1	100	S	.....	.....	.....	.....	10	.....	S	.....	.....	Smooth	.....	Squally.....	
Franklin, Norfolk, Va.....	30.32	770.1	62	16.7	48	8.9	78	NNE	9.6	4.3	3	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	30.04‡	763.0‡	.....	.....	52	11.1	86	NNE	.....	.....	.....	.....	5	.....	.....	0.3	8.	.....	.....	D. clouds.....	
Hartford, Montevideo, Uruguay...	29.79	756.7	69	20.6	63	17.2	45	SW	21.6	9.7	.....	.....	0	.....	.....	0.01	0.3	Rough	SW	Clear.....	
Lackawana, Panama.....*	29.70‡	754.4‡	.....	.....	77	25.0	91	NNW	.....	.....	2	....	2	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....	30.15†	765.8†	.....	.....	26	— 3.3	88	E	.....	.....	2	.. ..	0	.....	.....	0	0	.....	.....	Clear.	
Monocacy, N. 32° 00′, E. 128° 02′..*...	30.09‡	764.3‡	.....	.....	63	17.2	78	SE	.....	.....	5–6	.....	10	.....	SE	.....	.....	Rough	SSE	Rainy	
Monongehela, Yokohama, Japan ....*..	30.46‡	773.7‡	.....	.....	32	0.0	100	Calm	.....	.....	0	.....	6	.....	S	0	0	.....	.....	Hazy.....	
New Hampshire, Port Royal, S. C.....	30.46†	773.7†	.....	.....	58	14.4	100	W	5	2.2	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	70	21.1	86	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.28	769.1	27	— 2.8	25	— 3.9	100	N	.....	.....	5	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	42	5.6	83	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, S. 1° 25′, W. 82° 25′.....	29.91‡	759.7‡	.....	.....	77	25.0	91	SSW	4	1.8	.....	.....	10	.....	.....	2.	51.	Smooth	SSW	Overcast.....	
Powhatan, Norfolk, Va.....	30.25	768.3	47	8.3	48	8.9	70	N	.....	.....	3–4	.....	10	.....	Calm	0	0	.....	.....	Overcast.....	
Quinnebaug, N. 33° 46′, W. 19° 54′.....	30.02‡	762.5‡	.....	.....	63	17.2	62	SSW	.....	.....	4	.....	5	.....	SSW	.....	.....	Mod'ate	S	Fair.....	
Ranger, Yokohama, Japan.....*...	30.46‡	773.7‡	.....	.....	56	13.3	75	N	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Foggy	
Richmond, N. 37° 05′, W. 26° 38′.....	29.63‡	752.6‡	.....	.....	60	15.6	82	SSW	.....	.....	4	.....	2	.....	.....	.....	.....	Heavy	SW	Fair.....	
Rio Bravo, Brownsville, Texas.....	30.11	764.8	72	22.2	70	21.1	100	SE	.....	.....	1	.....	5	.....	S	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md...	30.25‡	768.3‡	.....	.....	40	4.4	100	NW	.....	.....	1	.....	10	.....	W	0.70	17.8	.....	.....	Overcast.....	
St. Louis, League Island, Pa.....	30.15	765.8	55	12.8	38	3.3	72	NNW	12	5.4	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Supply, Funchal, Madeira.....	30.10‡	764.5‡	.....	.....	63	17.2	78	WNW	.....	.....	2	.....	8	.....	NW	.....	.....	Smooth	.....	Cloudy.....	
Trenton, Villafranca, France *...	30.05‡	763.3‡	.....	.....	60	15.6	88	SE	.....	.....	1–2	.....	1	.....	S;E	0	0	.....	.....	Fair	
Tuscarora, N. 10° 20′, W. 88° 41′.....	29.88‡	758.9‡	.....	.....	77	25.0	86	NE	.....	.....	4	.....	0	.....	.....	0	0	Mod'ate	.....	Clear.....	
Wabash, Boston, Mass.....	30.20‡	767.1‡	.....	.....	34	1.1	79	NW	4	1.8	.....	.....	5	.....	.....	0.06	1.5	.....	.....	Hazy.....	
Wyoming, N. 36° 50′, E. 24° 13′.....	30.38	771.6	65	18.3	53	11.7	80	NE	.....	.....	4	.....	5	.....	NE	.....	.....	Smooth	NE	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
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S. S. China																			Capt. Cobb.
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S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Conn olly.
S. S. Georgia																			Capt. Austi n.
S. S. Granada																			Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, Sydney, Australia		30.06	763.5				Calm			0		0						Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 32° 20', W. 164° 10'		30.31*	769.9*	61	16.1	82	Var.			2		k		NE		Smooth	ESE	Hazy	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Ridley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch Off Ameland, Holland		30.40	772.1	34.0	1.1	??	ESE			4		10		ESE	0	Smooth	ESE	Hazy	L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 8; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool		30.35*	770.9*	34	1.1	90	SE			5		7		SE	0			Cloudy?	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian, N. 54° 40′, W. 14° 57′		29.84*	757.9*	40	4.4		E			6		8		E		Mod'ate	E	Showery	Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, N. 39° 10′, W. 74° 15′		30.22	767.6	39	3.9	100	NNE	5	2.2			10n		NE	0.061in or 1.5 mm.	Swell	S	Hailing	Capt. James Jorgensen.

NOTE —The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

HF Helliotype Printing Co. 220 Devonshire St Boston

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 30, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.24	768.2	58.8	14.9	82	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.20	767.1	62.1	16.7	75	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.11	764.7	50.0	10.0	87	W	.....	.....	6	.....	10	.....	.....	0.772	19.6	Raining	Touriliere.
La Calle	.....	.....	30.13	765.4	56.8	13.8	87	NNW	.....	.....	4	.....	8	.....	.....	0.315	8.0	Very cloudy	Foufrede.
Tunis	.....	.....	30.06	763.4	58.5	14.7	70	E	.....	.....	2	.....	5	.....	.....	0.024	0.6	Cloudy	Jacques.
Sfax	.....	.....	30.12	765.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.11	764.8	44.6	7.0	91	NW	.....	.....	1	.....	10	.....	.....	0.087	2.2	Raining	Herbin.
Tebessa	.....	.....	30.20	767.0	51.4	10.8	44	NNW	.....	.....	2	.....	8	.....	.....	0.248	6.3	Very cloudy	Watrin.
Geriville	.....	.....	30.10	764.4	43.9	6.6	94	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	30.20	767.0	53.2	11.8	48	NNW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.14	765.6	62.6	17.0	44	NW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.64	752.9	30.22	767.6	34.7	1.5	82	E	.....	.....	2	.....	10	.....	.....	0.051	1.3	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.58	751.2	30.40	772.2	20.8	— 6.2	100	E	.....	.....	3	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.36	745.8	30.31	769.8	25.5	— 3.6	82	N	.....	.....	2	.....	10s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.93	734.9	30.25	768.3	33.3	0.7	94	SSE	.....	.....	2	.....	10	.....	.....	0.087	2.2	.....	Andreas Rospini.
Hermannstadt	28.75	730.2	30.24	768.2	35.4	1.9	71	SE	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.80	731.6	30.22	767.6	30.9	— 0.6	94	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.30	744.3	30.38	771.7	19.0	— 7.2	98	S	.....	.....	2	.....	10	.....	.....	0.091	2.3	.....	Dr. T. Stanecki.
Pola	29.86	758.4	29.98	761.4	43.5	6.4	86	ENE	.....	.....	6	.....	10	.....	.....	0.307	7.8	.....	I.R.Hydrographic Office.
Szathmar	29.84	757.9	30.33	770.3	35.2	1.8	93	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.96	760.9	30.25	768.4	33.1	0.6	87	S	.....	.....	1	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.98	761.6	30.09	764.2	40.3	4.6	86	ENE	.....	.....	2	.....	10	.....	.....	2.036	51.7	Rainy	P. Busin.
Vienna	29.52	749.8	30.28	769.1	30.9	— 0.6	96	Calm	.....	.....	0	.....	10	.....	.....	0.047	1.2	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.43	772.9	30.53	775.4	36.4	2.4	.....	SE	12	5.4	.....	.....	9	.....	.....	0.015	0.38	Overcast.....	W. Boswell.
Ardrossan	30.42	772.6	30.44	773.2	35	1.7	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	William McNeil.
Armagh, Observatory	.....	.....	30.39	771.9	33.1	0.6	.....	E	6	2.7	.....	.....	10	.....	.....	.....	.....	Hailing.....	S. Cali.
Bidston, (Liverpool Obs.)	.....	.....	30.36	771.1	33.0	0.6	.....	E	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton	.....	.....	30.37	771.4	30.7	— 0.7	.....	ESE	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Bradford, Yorkshire	29.98	761.5	30.37	771.4	33.3	0.7	.....	E	.....	.....	3	.....	10	.....	.....	0.02	0.5	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.89	759.2	29.92	760.0	79.0	26.1	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	30.33	770.4	32.7	0.4	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	H. Todd. [C.
Cardington	.....	.....	30.40	772.1	33.0	0.6	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.16	766.1	30.30	769.6	32.2	0.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	Corpl. Daly, R. E.
Dartmoor	28.60	726.4	30.14	765.5	28.0	— 2.2	.....	NE	.....	.....	5	.....	9	.....	.....	.....	.....	Foggy.....	Alexander Watt.
Donaghadee	30.35	770.9	30.40	772.1	35	1.7	.....	ESE	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.24	768.1	30.26	768.6	33	0.6	.....	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	J. Costello.
Falmouth, Observatory	30.02	762.5	30.26	768.6	36.2	2.3	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy.....	The Staff.
Fort Napier, (Natal)	27.41	696.2	25.73	755.1	83.6	28.3	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds.....	Pvt. S. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.62	752.3	29.86	758.4	89	31.7	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.26	768.6	35	1.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.12	765.0	30.18	766.6	60.9	16.1	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	30.22	767.6	30.43	772.9	34.0	1.1	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.32	770.1	30.33	770.4	32	0.0	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	G. T. Watson.
Greenwich, Royal Ob's'y	30.13	765.3	30.31	769.9	31.7	— 0.2	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	The Staff, for G. B. Airy
Guernsey	30.00	762.0	30.22	767.6	38	3.3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	30.18	766.6	30.30	769.9	37	2.8	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	M. P. Moyle.
Holyhead	30.29	769.4	30.35	770.9	33	0.6	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.95	760.7	30.26	768.6	36.5	2.5	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	30.27	768.8	30.30	769.6	32.9	0.5	.....	ENE	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
Leicester, Museum	30.08	764.0	30.35	770.9	32.1	0.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.93	760.2	30.01	762.2	60	15.6	.....	NW	.....	.....	1	.....	4k	.....	.....	.....	.....	Blue sky.....	Sergt. Beckett, A. H. C.
Nairn	30.40	772.1	30.50	774.7	35	1.7	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.17	766.3	71.0	21.7	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.17	766.3	30.37	771.4	32.6	0.3	.....	ENE	.....	.....	3	.....	10	.....	E	0.014	0.35	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.79	756.7	30.34	770.6	30.8	— 0.7	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.33	770.4	32	0.0	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Hailing.....	H. E. Bellamy.
Plymouth	30.20	767.1	30.27	768.8	33.9	1.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	30.20	767.1	30.25	768.3	38	3.3	.....	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Dull.....	W. Kennedy.
Saint Ann's Head	30.12	765.0	30.29	769.4	34	1.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	30.61	777.5	36.9	2.7	.....	SE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	30.24	768.1	48.0	8.9	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	W. H. Lyne.
Sheffield	30.11	764.8	30.41	772.4	33.2	0.7	.....	ENE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	30.39	771.9	30.42	772.6	33.0	0.6	92	Calm	.....	.....	0	.....	10	.....	.....	0.035	0.89	Overcast.....	Francis Redford, A. M.
Stonyhurst Observatory	29.98	761.5	30.38	771.6	32.0	0.0	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	Rev. S. J. Perry.
Strathfield Turgiss	30.06	763.5	30.32	770.1	32.3	0.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy.....	Rev. C. H. Griffith, F. M. S.
Thurso	30.48	774.2	30.54	775.7	37	2.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro Royal Institution	.....	.....	30.25	768.3	37	2.8	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	30.17	766.3	30.19	766.8	40.2	4.6	.....	E	23	10.3	.....	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.70	754.4	66	18.9	89	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.46	773.7	34.1	1.2	.....	E	.....	.....	2	.....	10ks	.....	.....	0	0	Overcast.....	Andrew Gibb.
Mauritius, Observatory	29.71	754.6	29.90	759.4	81.4	27.4	67	E	12.0	5.4	.....	6	4	.....	ENE	0.07	1.8	Cloudy.....	C. Meldrum.
Melbourne, Observatory	29.91	759.7	30.00	762.0	63.0	17.2	83	SSW	15	6.7	.....	.....	10	.....	.....	0	0	Dull.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.47	773.9	41	5.0	.....	SE	.....	.....	4	3	5	E	.....	0	0	.....	J. Youngchause.
North Unst, (Shetland Is.)	.....	.....	30.60	777.2	39	3.9	.....	SW	.....	.....	3	2	4	NW	.....	0	0	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.23	666.2	29.95	760.7	64.8	18.2	82	SE	.....	.....	2	1cs	2ks	NE	.....	0	0	Fair	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.44	773.1	30.48	774.3	27.7	— 2.4	92	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	30.44	773.2	30.46	773.7	27.5	— 2.5	92	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	30.10	764.4	30.14	765.5	20.1	— 6.6	81	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Stykkisho'm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faroe)	30.55	776.0	30.59	776.9	38.8	3.8	87	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	30.34	770.5	30.50	774.8	26.4	— 3.1	91	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.70	754.3	30.25	768.3	36.0	2.2	93	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.11	764.8	30.23	767.8	32.7	0.4	92	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.02	762.5	30.10	764.5	46.4	8	72	N	.....	.....	2	.....	0	.....	.....	0.035	0.9	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.62	752.4	30.21	767.4	35.8	2.1	89	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.97	761.1	30.27	768.8	34.3	0.7	86	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.31	744.4	30.21	767.3	34.5	1.4	93	E	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.32	744.8	30.23	767.9	34.0	1.1	96	N	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director.
Brest, Naval Observatory	29.90	759.4	30.14	765.6	37.4	3.0	86	NE	.....	.....	1	.....	10	.....	NE	0	0	Misty	M. de Rermaur, Director
Carcassonne, Normal School	29.71	754.6	30.13	765.3	51.8	11	71	NE	.....	.....	1	.....	2	E	E	0.012	0.3	Slightly cl'dy	September, Director.
Caen, Normal School	30.12	765.1	30.20	767.1	35.6	2	85	NNE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.61	752.1	30.21	767.2	32 0	0	93	E	.....	.....	3	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.2	30.24	768.1	33.8	1.0	85	SE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.76	730.5	30.13	765.2	52.0	11.1	61	NE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	Alluard, Director.
Commercy, Normal School	29.34	745.3	30.24	768.2	31.5	— 0.3	100	E	.....	.....	2	.....	.....	.....	.....	0	0	Misty	Dr. Coulet, Director.
Commune de Grèasqui *	28.95	735.4	30.10	764.4	49.6	9.8	66	NW	.....	.....	4	.....	0	.....	.....	0.244	6.2	Clear	M. Kina, Director.
Grenoble, Normal School	29.42	747.3	30.23	767.8	36.0	2.2	89	ENE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Ablard, Director.
La Roche-sur-Yon N. School	29.97	761.2	30.19	766.8	46.8	8.2	89	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director
Le Mans, Normal School	29.94	760.4	30.26	768.7	35.1	1.7	96	NE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Pourrier, Director.
Lons-Le-Saulnier, N. School	29.24	742.7	30.21	767.2	33.6	0.9	100	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	30.13	765.3	30.23	767.8	39.6	4.2	93	NNE	.....	.....	3	.....	.....	.....	NNE	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.09	738.8	30.17	766.4	31.6	— 0.2	96	SSE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Barbier, Director.
Nismes, Normal School	29.89	759.1	30.09	764.3	56.5	13.6	78	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.14	638.6	.....	.....	31.8	— 0.1	97	NW	.....	.....	1	.....	8	.....	NW	0	0	Very cloudy	Allhard, Director.
Rochefort, Naval Obs'y	30.14	765.6	30.17	766.4	47.1	8.4	94	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.16	766.0	30.24	768.2	33.8	1.0	81	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	30.18	766.6	30.21	767.4	37.9	3.3	84	SE	.....	.....	1	.....	10	SE	SE	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.07	763.6	30.23	767.8	33.3	0.7	94	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.93	734.9	30.03	762.7	48.2	9	61	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.45	747.9	30.18	766.6	42.6	5.9	98	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.2	29.92	759.9	74.1	23.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé March si.
Lyons, Observatory	.....	.....	30.19	766.9	35.4	1.9	93	NNE	.....	.....	1	.....	10	.....	.....	0	0	Misty	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.87	631.6	30.18	766.6	37.0	2.8	60	SW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.05	763.2	55.8	13.2	67	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.94	760.5	.....	.....	32.0	0.0	100	NE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Misty	Marié Davy, Director.
Perpignan	30.01	762.3	30.12	765.0	54.9	12.7	72	E	5.6	2.5	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Bevlac.
Pic du Midi, (Plantade,) H. P.	22.47	570.7	.....	.....	29.3	— 1.5	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Gen'l de Nansouty.
Toulouse, Observatory	29.47	748.5	30.19	766.9	49.3	9.6	86	NW	.....	.....	1	.....	7	.....	.....	0	0	.....	M. Mercadier Julier.
Tours	30.00	761.9	30.19	766.9	36.1	2.3	94	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Cousin-Marquet.
Versailles Observatory	.....	.....	30.21	767.2	32.4	0.2	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Dr. A. Bérigny, Director
Zi-Ka-Wei, (near Shanghai)	30.44	773.2	30.47	773.8	32.2	0.1	69	N	18.1	8.1	.....	.....	10k	.....	.....	0.161	4.1	Covered	Marc Deschevrens, S. J
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.35	745.4	30.20	767.0	33.8	1.0	75	ESE			3		10			0	0		Prof. Dr. Hoh.
Berlin	30.23	767.9	30.42	772.6	28.4	— 2.0	75	E			1		10			0	0		Prof. Arndt.
Breslau	29.84	757.9	30.38	771.6	24.8	— 4.0	80	ENE			2		10			0	0		Royal University Obs'y
Carlsruhe	29.75	755.6	30.20	767.1	33.1	0.6	96	NNE			1		10	E		0.020	0.5		Albert Senz.
Cassel	29.69	754.2	30.31	769.8	27.7	— 2.4	89	ENE			1		10	E		0.018	0.46	Snowing	Dr. H. Möhl.
Crefeld	30.10	764.5	30.26	768.6	30.6	— 0.8	81	E			3		9			0	0		Director Lose.
Emden					29.8	— 1.2	76	E			3		10			0	0		Prof. Prestel.
Frankfort on the Main	29.85	758.3	30.24	768.0	31.5	— 0.3		NNE			2		10			Inap.	Inap.		Physical Society.
Friedrichshafen	28.71	729.2	30.22	767.5	32.0	0.0	85	ENE			2		10			0	0		M. Wilhelm.
Hamburg	30.35	771.0	30.43	772.9	30.6	— 0.8	90	ENE			4		10			0	0		Captain F. Hegemann
Kiel	30.37	771.5	30.39	772.0	30.9	— 0.6	84	ESE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.48	774.1	30.57	776.4	10.8	—11.8	78	NE			3		0?			0.004	0.1	Snowing?	Prof. E. Luther.
Köslin			30.44	773.2	23.9	— 4.5		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.89	759.3	30.34	770.7	27.9	— 2.3	89	NE			3		10	E		0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.59	776.9	30.63	778.1	8.1	—13.3	88	E			2		0						Skalweit.
Neufahrwasser	30.53	775.4	30.55	775.9	17.2	— 8.2	71	SE			1		9			0	0		A. Lothes.
Posen	30.17	766.3	30.48	774.2	24.3	— 4.3	72	E			5		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.65	753.2	30.24	768.0	32.9	0.5	98	SW			1		10			0.008	0.20	Light rain	Imp. University Observatory.
Stuttgart	29.19	741.5	30.18	766.5	34.7	1.5	72	S			1		10			0.008	0.20	Foggy	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.65	727.8	30.25	768.4	28.9	— 1.7	92	E	2	1			10			0	0	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.44	773.1	30.46	773.7	27.5	— 2.5	94	SE			2		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.84	757.8	30.23	767.9	52.2	11.2		NE			1.0							½ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	752.5	30.07	763.8	73.5	23.1	61	W	5.0	2.2			0			0	0	Blue sky	
Deesa	29.55	760.5	30.03	762.7	80.1	26.7	33	WNW					0			0	0	Blue sky	
Bombay	29.94	750.4	29.98	761.4	78.6	25.9	73	NNW	17.0	7.6			0			0	0	Blue sky	
Poonah	27.96	713.2	29.96	761.0	80.6	27.0		ENE					1	W		0	0	Blue sky	
Lahore	29.31	744.4	30.07	763.9	68.6	20.3	31	Calm	1.7	0.8			0			0	0	Blue sky	
Belgaum	27.44	696.9	29.97	761.2	78.9	26.1	32	ENE	4.0	1.8			3	SSW		0	0	D. clouds	
Roorkee	29.10	739.3	30.03	762.8	68.8	20.4	27	NW	2.8	1.2			0			0	0		
Agra	29.45	748.0	30.03	762.6	73.7	23.2	40	W					0			0	0		
Nagpur	28.95	735.2	29.99	761.8	80.6	27.0	31	Calm	2.3	1.0			0			0	0	Blue sky	
Lucknow	29.64	752.8	30.02	762.4	73.3	22.9	22	NW	1.4	0.6			0			0	0	Blue sky	
Allahabad	29.71	754.6	30.03	762.7	70.4	21.3	40	Calm	1.2	0.5			0			0	0	Blue sky	
Patna	29.82	757.4	30.01	762.1	73.3	22.9	44	NW	1.5	0.7			0			0	0	Blue sky	
Hazaribagh	27.97	710.4	30.03	762.7	68.8	20.4	24	WNW	6.8	3.0			0			0	0	Blue sky	
Cuttack	29.92	760.0	30.01	762.1	79.5	26.4	56	WSW	1.7	0.8			0			0	0	Blue sky	
Calcutta (Alipore)	30.00	761.9	30.02	762.4	69.2	20.7	61	N	1.6	0.4			0			0	0	Blue sky	
Goalpara	29.58	751.4	29.98	761.6	68.5	20.3	42	Calm	2.3	1.0			0			0	0	Blue sky	
Chittagong	29.94	760.4	30.03	762.8	69.6	20.9	92	WSW	4.5	2.0			0			0	0	Misty	
Sibsagar	29.66	753.3	30.01	762.1	62.2	16.8	89	SW	0.7	0.3			10	SSW	SSW	0	0	D. clouds	
Jubbulpore	28.65	727.7	30.04	763.0	74.8	23.8	31	Calm	1.8	0.8			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal: the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poonah is 1,992.4 feet, or 606.3 meters: Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,357 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.70	754.3	30.12	765.1	42.3	5.7	72	SE	6.3	2.8	.....	.....	10	.....	.....	0.118	3.0	.....	Prof. Giovanni Clodig.
Padua	29.95	760.6	30.06	763.5	45.0	7.2	78	NE	14.3	6.4	.....	.....	10	.....	.....	0.110	2.8	.....	Prof. Dott. Lorenzoni
Milan	29.54	750.3	30.08	764.0	42.6	5.9	94	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.14	740.1	30.08	764.1	46.0	7.8	72	ENE	0	0	.....	.....	5	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.11	713.9	30.08	764.1	45.7	7.6	52	NW	.....	.....	4	.....	2	N	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.82	757.5	30.02	762.5	52.2	11.2	57	NE	3.8	1.7	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.74	755.5	30.01	762.2	47.3	8.5	92	W	.....	.....	2	.....	10	.....	.....	0.240	6.1	.....	Cav. F. Meucci
Leghorn	29.89	759.2	29.98	761.4	51.1	10.6	86	ENE	0	0	.....	.....	10	.....	.....	0.315	8.0	.....	Prof. P. Monte.
Pesaro	29.86	758.4	29.91	759.7	46.6	8.1	94	N	22.4	10.0	.....	.....	10	.....	.....	0.327	8.3	.....	Prof. Luigi Guidi.
Rome	29.82	757.3	29.99	761.8	54.1	12.3	73	NW	1.8	0.8	.....	.....	10	.....	.....	0.224	5.7	.....	Prof. P. S. Ferrari.
Lecce	29.78	756.5	30.04	763.1	56.3	13.5	72	SW	24.8	11.1	.....	.....	8	.....	.....	0.035	0.9	.....	Prof. C. De Giorgi.
Cagliari	29.81	757.2	30.00	762.1	57.0	13.9	67	W	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.11	739.5	30.02	762.6	50.0	10.0	75	SE	1.8	0.8	.....	.....	10	.....	.....	1.315	33.4	.....	Prof. D. Conti.
Palermo	29.77	756.1	30.02	762.6	56.7	13.7	56	WNW	6.3	2.8	.....	.....	2	.....	.....	0.169	4.3	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.1	30.00	762.1	56.7	13.7	71	NNE	9.8	4.4	.....	.....	5	NW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.45	747.9	30.00	762.0	53.1	11.7	91	SW	7.4	3.3	.....	.....	9	.....	.....	0.059	1.5	.....	Prof. F. Frioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,834.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.93	760.2	29.95	760.7	48.5	9.2	76	N	6.7	3.0	.....	.....	9s	.....	.....	1.090	27.68	Cloudy	R. Iwasaki.
Nagasaki, I. M. Obs'y	29.83	757.7	30.03	762.7	49.5	9.7	85	N	6.4	2.9	.....	.....	10s	.....	.....	1.100	27.94	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.79	756.6	29.86	758.4	44.3	6.8	97	SE	3.0	1.3	.....	.....	9s	.....	.....	0.820	20.83	Cloudy	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.6	30.34	770.7	42.8	6.0	53	SW	.....	.....	1	8cs	0	.....	.....	0	0	Misty	Prof. L. Perez.
Leon	24.52	623.0	30.21	767.4	52.0	11.1	80	S	.....	.....	1	2c	0	NW	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.17	588.3	30.34	770.6	45.5	7.5	74	Calm	0	0	.....	0	2ks	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	48.9	9.4	66	NNE	.....	.....	1	4cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.10	764.6	30.12	764.9	71.1	21.7	95	NW	.....	.....	2	0	10	.....	NE	0	0	Threatning	M. M. Cházaro.
San Luis Potosi	24.29	617.1	30.28	769.0	48.5	9.2	16	ESE	.....	.....	1	.....	8	.....	N	.....	.....	Misty	G. Barroeta, M. D.
Vera-Cruz	30.11	764.7	30.14	765.4	71.6	22.0	86	NW	.....	.....	0	2c	7sk	.....	SE	0	0	Very clear	Prof. J. Rossell.
Zacatecas	22.58	573.5	.....	.....	51.8	11	69	SE	.....	.....	1	0	3	.....	.....	0	0	Clear	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.41	594.5	30.16	766.0	42.8	6.0	89	ENE	2.2	1.2	.....	.....	2	.....	Calm	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.7	30.09	764.2	71.6	22.0	66	NE	.....	.....	1	0	8	.....	SE	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	29.97	761.2	30.10	764.6	72.5	22.5	.....	Calm	.....	.....	0	2cs	3n	.....	N	0.019	0.5	½ clouded	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1833 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.31	769.9	30.31	769.9	33.3	0.7	.....	ENE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Helder	30.35	771.0	30.41	772.4	29.5	— 1.4	.....	E	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.35	771.0	30.35	771.0	29.5	— 1.4	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	30.30	769.6	30.30	769.6	30.4	— 0.9	98	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
.....	30.28	769.2	30.33	770.4	31.1	— 0.5	80	ENE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.45	773.4	30.50	774.8	31.6	— 0.2	81	Calm	0	0	.....	.....	3	.....	.....	0	0	.....	
Brönö	30.31	769.8	30.35	770.8	39.2	— 4.0	92	SSW	9	4	.....	.....	10	.....	.....	0.472	12.0	Raining	
Christiania	30.33	770.4	30.49	774.4	28.4	— 2.0	88	ENE	.....	.....	.....	.....	10	.....	.....	0	0	Foggy	
Tromsö	29.89	759.2	29.93	760.3	32.0	— 0.0	63	W	20	9	.....	.....	9	.....	.....	0.193	4.9	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.20	741.8	29.40	746.7	55.0	12.8	79	WNW	6.3	2.8	.....	.....	3	.....	.....	0.059	1.5	Raining	Dr. J. A. Sampaio.
Campo Major	29.20	741.7	30.26	768.6	43.7	6.5	97	ENE	3.1	1.4	.....	.....	9	E	.....	0.185	4.7	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.96	760.9	30.04	763.1	62.6	17.0	80	SW	1.8	0.8	.....	.....	9	.....	.....	0.047	1.2	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.83	757.7	30.20	767.0	50.9	10.5	86	ENE	8.7	3.9	.....	.....	9	WSW	.....	0.122	3.1	.....	The Staff.
Ponta Delgada, (Azores)	29.40	746.8	29.47	748.6	55.4	13.0	79	SW	29.3	13.1	.....	.....	10	.....	.....	0.476	12.1	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.87	758.7	82.8	28.2	.....	W	.....	.....	3	.....	3	.....	W	3	W	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa.																			
Porto de S. Jose de Bissao, Senegambia	.....	.....	29.88	758.9	79.5	26.4	.....	E	.....	.....	2	.....	2	.....	.....	1	.....	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.83	757.6	84.2	29.0	.....	WSW	.....	.....	3	.....	3	.....	.....	2	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.16	766.0	59.0	15.0	.....	N	.....	.....	4	.....	*10	.....	.....	3	N	Overcast	M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	30.05	763 2	30.52	775.1	10.9	—11.7	75	ENE	9	4	.....	.....	0	.....	.....	.....	.....	Snowing	Astronomical Obs
Wilna	30.20	767.1	30.68	779.3	1.9	—16.7	88	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	30.43	773.0	30.71	780.0	0.3	—17.6	89	SSW	2	1	.....	.....	1ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.56	776.1	30.57	776.5	5.9	—14.5	91	WSW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.85	758.3	30.54	775.8	12.9	—10.6	86	E	7	3	.....	.....	10ks;n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Nikolaiev	30.44	773.2	30.51	775.0	16.9	— 8.4	85	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.42	772.6	30.44	773.1	25.3	— 3.7	93	NE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.18	766.6	30.82	782.7	0.9	—17.3	89	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.38	771.6	30.60	777.3	14.0	—10.0	61	E	9	4	.....	.....	9s	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.73	755.1	29.75	755.6	26.2	— 3.2	91	SW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.89	733.9	30.40	772.2	30.4	— 0.9	86	Calm	0	0	.....	.....	6ck	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.73	780.5	30.65	778.4	19.4	— 7.0	54	ENE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.24	768.1	30.79	782.0	— 6.5	—21.4	66	W	2	1	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.40	772.1	30.71	780.0	— 4.2	—20.1	89	WSW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.20	741.8	30.29	769.3	— 1.7	—18.7	65	W	31	14	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tashkend	28.74	730.1	30.58	776.6	28.4	— 2.0	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.93	760.2	30.54	775.7	—13.0	—25.0	79	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.89	759.3	30.18	766.5	1.2	—17.1	77	SW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.38	771.7	30.52	775.3	19.4	— 7.0	49	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nikolaievsk, on the Amoor	29.96	760.9	30.04	763.1	.....	.....	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the cooperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.01	762.2	30.12	765.0	52 9	11.6	66	ESE	2.1	0.92	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.10	764 5	30.16	766.0	59 0	15.0	67	SE	0.9	0.38	.....	2	1	SE	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.2	.....	.....	45.7	7.6	80	SE	4.2	1.88	.....	.....	6	.....	.....	0.071	1.8	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.96	710.3	.....	.....	39.2	4.0	100	SE	1.5	0.67	.....	.....	10	.....	.....	0.138	3.5	Covered	The Staff.
Murcia, Met. Obs'y	30.04	763.1	30.20	767.0	59 0	15.0	64	SE	6.0	2.69	.....	2	2	NNE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.19	741.3	30.02	762.6	47.1	8.4	75	SE	4.3	1.9	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.13	765.2	30.19	766.8	66.2	19.0	88	ENE	1.8	0.08	.....	0	1k	.....	.....	Inap.	Inap.	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.86	758.6	29.92	760.0	82 0	27.8	88	N	0	0	.....	7k	0	E	.....	0.04	1.0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.16	766.1	30.26	768.7	60.4	15.8	67	E	1.0	0.5	.....	2	6	WNW	S	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.95	760.8	30.04	763.1	74 1	23.4	83	E	7.7	3.44	.....	4k	3kn	E	E	0.118	3.00	Cloudy	Leonardo de Tejeda, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.95	760 7	29.99	761.7	35.6	2.0	.....	W	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.19	766.8	30.24	768.1	36.3	2.4	.....	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	30.30	769.7	30.35	771 0	38.5	3.6	83	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Stockholm	30.38	770.3	30.50	774:8	25.2	— 3.8	95	SSW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.44	773.1	30.50	774.6	24.1	— 4.4	91	SSE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.39	771.8	30.46	773.7	21.6	— 5.8	93	SSW	9.4	4.2	.....	.....	10	.....	.....	0.011	0.29	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.72	729.5	30.21	767.4	30.7	— 0.7	94	ESE	.....	.....	2	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.52	724.3	30.24	768.2	28.8	— 1.8	97	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.3 mm.; Thermometer, —2.9 ent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.26	768.7	44.6	7.0	62	NE	9	4.0	.....	.....	3	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.09	764.2	57.6	14.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.07	763.8	30.19	766.8	57.0	13.9	47	NW	.....n.	.....	1	.....	2c	.....	.....	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.87	758.7	29.94	760.5	11.1	—11.6	84	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.97	761.2	30.31	769.9	12	—11.1	.....	Calm	0	0	.....	.....	8s	.....	N	0	0	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.87	758.7	29.94	760.5	12	—11.1	80	NW	4	1.8	.....	.....	10ks	.....	NW	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.74	755.4	29.79	756.7	19	— 7.2	97	NE	18	8.0	.....	.....	10n	.....	Calm	0.100	2.54	Light snow..	H. J. Cundall, C. E.
Cornwall, Ontario	30.08	764.0	30.30	769.6	—10.9	—23.8	100	W	.....	.....	1	0	2s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.03	762.8	30.08	764.0	41.1	5.1	83	NE	.....	.....	.....	5cs	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	30.11	764.8	30.13	765.3	— 3	—19.4	83	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	J. McWilliams.
Fredericton, N. B	29.93	760.2	30.00	762.0	5.1	—14 9	90	NW	10	4.5	.....	cs	0	.....	.....	0	0	Fine.....	Prof. Harrison.
*Fort Garry Manitoba	29.31	744.5	30.22	767.6	9	—12.8	89	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	29.14	740.1	30.34	770.6	14	—10.6	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.64	752.8	29.79	756.7	17	— 8.3	92	N	14	6.3	.....	.....	10ks	.....	N	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.94	760 5	30.34	770.6	25.3	— 3.7	97	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.48	748.8	29.50	749.3	33	0.6	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	E. Weedon.
*Kingston, Ontario	29.96	761.0	30.33	770.4	9	—12.8	76	Calm	0	0	.....	.....	10ks	.....	NW	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.51	749.5	29.55	750.6	22.7	— 5.2	92	NE	8	3.6	.....	.....	10n	.....	Calm	0.20	5.1	Snowing.....	C. H. Rigby.
Moose Factory, Ontario	30.27	768.8	30.31	769.9	5.7	—14.6	98	NW	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Cloudy.....	J. R. Nason.
*Montreal, Quebec	30.07	763.8	30.29	769 4	0	—17.8	97	W	11	4.9	.....	8k	Sm'e	NW	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.54	750.3	30.29	769.4	19	— 7.2	89	E	4	1.8	.....	5k	5ks	SW	SW	Inap	Inap.	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.52	749.8	30.32	770.1	20.9	— 6.2	70	Calm	.....	.....	.....	.....	10	.....	.....	.....	.....	Light snow.	J. F. Jeffers, B. A.
Port Dover, Ontario	29.57	751.1	30.32	770.1	22	— 5.6	86	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	29.53	750.0	29.58	751.3	23.7	— 4.6	.....	NW	9	4.0	.....	.....	.....	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.64	752.8	30.35	770.9	16	— 8.9	96	N	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	M. Payne.
*Quebec, Quebec	29.88	758.9	30.25	768.3	— 2	—18.9	67	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.79	756.7	30.30	769.6	9	—12.8	98	SE	2	0.9	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow..	W. H. McIntyre.
St. Andrews, N. B	29.91	759 7	29.97	761.2	8	—13.3	80	N	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	29.77	756.1	29.95	760.7	7	—13.9	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.53	750.0	30.29	769.4	26	— 3.3	89	S	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.45	748.0	30.29	769.4	22	— 5.6	87	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair.....	R. J. Cole.
Stratford, Ontario	28.95	735.3	30.35	770.0	11.8	—11.2	93	SE	2	0.9	.....	0	3s	.....	.....	0	0	Fine.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.57	751.1	29.61	752.1	27	— 2.8	96	N	12	5.4	.....	.....	10n	.....	.....	0.12	3.0	Light snow..	T. C. Hill.
*Toronto, Ontario	29.91	759.7	30.32	770.1	24	— 4.4	87	NW	4	1.8	.....	8ck	2s	W	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.75	755.6	29.85	758.2	15.5	— 9.2	91	.....	.....	.....	.....	.....	10n	.....	.....	0	0	Overcast.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	100	NE	.....	.....	.....	Fog	Fog	.....	.....	0.38	9.7	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	30.06	763.5	30.32	770.1	4	—15.6	100	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.61	752.1	30.30	769.6	28	— 2.2	77	W	4	1.8	.....	.....	8s	.....	N	0.01	0.3	Cloudy	
Atlanta, Georgia	29.04	737.6	30.20	767.1	55	12.8	80	NW	11	4.9	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Atlantic City, New Jersey	30.24	768.1	30.25	768.3	25	— 3.9	62	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.99	761 7	30.17	766.3	62	16.7	88	N	5	2.2	.....	.....	10s	.....	N	0	0	Clear	
Baltimore, Maryland	30.25	768.3	30.30	769.6	34	1.1	61	N	6	2.7	.....	2k	2s	W	W	0	0	Cloudy	
Barnegat, New Jersey	30.22	767.6	30.24	768.1	23	— 5.0	73	N	16	7.2	.....	2c	0	Calm	.....	0	0	Fair	
Bismarck, Dakota	28.44	722.4	30.29	769.4	17	— 8.3	83	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.66	728.0	29.96	761.0	64	17.8	100	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Clear	
Boise City, Idaho	27.38	695.4	30.34	770.6	9	—12.8	78	SE	3	1.3	.....	0	0	.....	.....	0	0	Cloudy	
Boston, Massachusetts	30.00	762.0	30.17	766.3	12.5	—10.8	61	NW	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.96	735.6	29.96	761 0	68	20.0	84	E	12	5.4	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Breckenridge, Minnesota	29.29	744.0	30.40	772.1	9	—12.8	100	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.10	764.5	30.16	766.1	72	22.2	90	S	4	1.8	.....	.....	10ks	.....	S	0	0	Cloudy	
Buffalo, New York	29.57	751.1	30.32	770.1	25	— 3.9	81	SW	2	0.9	.....	2cs	Haze	Calm	Calm	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	40	4.4	19	SE	.....	.....	1	2c	0	N	.....	0	0	Clear	
Burlington, Vermont	30.00	762 0	30.33	770.4	6	—14.4	76	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	30.05	763.3	30.46	773.7	43	6.1	83	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.12	638.0	29.92	760.0	40	4.4	82	E	8	3.6	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Camp Verde, Arizona	.....	.....	.....	.....	37	2.8	90	S	.....	.....	1	.....	10n	.....	Calm	0.02	0.5	Light rain	
Campo, California	27.61	701.3	30.18	766.6	36	2.2	90	SW	2	0.9	.....	.....	10s	.....	SW	0.30	7.6	Cloudy	
Cape Hatteras, N. Carolina	30.23	767.8	30.23	767.8	40	4.4	73	NE	14	6.3	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Cape Henry, Virginia	30.27	768.8	30.29	769.4	34	1.1	70	NW	10	4.5	.....	0	0	.....	.....	0.21	5.3	Clear	
Cape Lookout, N. Carolina	30.20	767.1	30.22	767.6	42	5.6	91	NE	20	8.9	.....	.....	10s	.....	NE	0.15	3.8	Cloudy	
Cape May, New Jersey	30.24	768.1	30.27	768.8	27	— 2.8	65	N	15	6.7	.....	0	0	.....	.....	0.03	0.8	Clear	
Castroville, Texas	29.34	745.2	30.04	763.0	67	19.4	95	S	7	3.1	.....	.....	10s	.....	S	0	0	Threatening	
Charleston, South Carolina	30.15	765.8	30.22	767.6	54	12.2	80	E	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	24.09	611.9	30.03	762.8	16	— 8.9	83	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.66	753.4	30.40	772.1	29	— 1.7	78	NW	3	1.3	.....	Haze	0	Calm	.....	0	0	Clear	
Cincinnati Ohio	29.69	754.1	30.38	771.6	35	1.7	80	NW	1	0.4	.....	.....	Fog	.....	Calm	0.09	2.3	Heavy fog	
Cleveland, Ohio	29.57	751.1	30.34	770.6	27	— 2.8	76	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.34	719.8	29.99	761.7	60	15.6	100	SE	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.44	747.8	30.33	770.4	31	— 0.6	68	NE	1	0.4	.....	2k	Fog	Calm	Calm	0	0	Fair	
Corpus Christi, Texas	28.18	715.8	29.83	757.7	61	16.1	83	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Corsicana, Texas	29.72	754.9	30.18	766.6	65	18.3	100	SE	3	1.3	.....	.....	10s	.....	Calm	2.29	58.2	Cloudy	
Davenport, Iowa	29.78	756.4	30.47	773.9	28	— 2.2	77	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.59	650.0	.....	.....	15	— 9.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.14	740.1	30.36	771.1	49	9.4	85	N	4	1.8	.....	.....	10s	.....	N	0	0	Threatening	
Denison, Texas	29.41	747.0	30.23	767.8	46	7.8	100	N	6	2.7	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Denver, Colorado	24.86	631.4	30.05	764.0	26	— 3.3	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.52	749.8	30.48	774.2	24	— 4.4	87	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Detroit, Michigan	29.60	751.8	30.31	769.9	26	— 3.3	88	SW	2	0.9	.....	.....	10s;fog	.....	Calm	0	0	Foggy	
Dodge City, Kansas	27.67	702.8	30.06	763.5	36	2.2	100	SE	8	3.6	.....	.....	10n	.....	SE	0.01	0.3	Light rain	
Dubuque, Iowa	29.71	754.6	30.47	773.9	24	— 4.4	87	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.58	751.3	30 32	770.1	21	— 6.1	86	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.30	744.2	30.03	762.8	68	20.0	95	SE	.....	.....	2	0	5s	.....	SE	0.03	0.8	Light rain	
Eastport, Maine	29.91	759.7	29.98	761.5	9	—12.8	78	NW	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	69	20.6	95	SE	.....	.....	1	.....	10ks	.....	SE	0	0	Cloudy	
El Paso, Texas	26.30	668.0	.....	.....	57	13.9	57	W	3	1.3	.....	.....	10s	.....	E	0.07	1.8	Cloudy	
Erie, Pennsylvania	29.54	750.3	30.30	769 6	28	— 2.2	88	SW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Escanaba, Michigan	29.64	752.8	30.34	770.6	22	— 5.6	72	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.70	729.0	30.30	769.6	44	6.7	68	S	.....	.....	2	0	0	.....	.....	0.05	1.3	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.49	647.4	29.56	750.8	39	3.9	100	SW	2	0.9	.....	.....	10n	.....	SW	0.03	0.8	Light rain	
Fort Davis, Texas	25.26	641.6	30.22	767.6	54	12.2	79	Calm	0	0	.....	.....	10ks	.....	S	0	0	Foggy	
Fort Gibson, Indian Ter	29.76	755.9	30.32	770.1	43	6.1	92	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Fort Griffin, Texas	28.92	734 6	30.23	767.8	45	7.2	92	N	6	2.7	.....	.....	10n	.....	Calm	0.07	1.8	Light rain	
Fort Keogh, Montana	27.76	705.9	.....	.....	12	—11.1	.....	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.86	707.6	29.74	755.4	65	18.3	89	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.00	736.6	30.15	765.8	41	5.0	100	NE	16	7.2	.....	.....	10n	.....	NE	0.74	18.8	Light rain	
Fort Stevenson, Dakota	28.46	722.9	.....	.....	9	—12.8	78	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.37	720.6	29.91	759.7	64	17.8	94	S	1	0.4	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Galveston, Texas	30.18	766.6	30.22	767.6	62	16.7	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Graham, Texas	29.06	738.1	30.14	765.5	47	8.3	92	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.65	753.1	30.34	770.6	30	— 1.1	68	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.55	750.6	30.38	771.6	33	0.6	79	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.17	766.3	30.20	767.1	64	17.8	100	SE	8	3.6	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Jacksboro, Texas	29.03	737.3	30.18	766 6	49	9.4	85	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Jacksonville, Florida	30.19	766.8	30.21	767.3	60	15.6	88	W	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.77	756.1	30.43	772 9	29	— 1.7	78	N	4	1.8	.....	5c	0	NW	.....	0	0	Fair	
Key West, Florida	30.19	766.8	30.22	767.6	69	2006	90	NE	11	4.9	.....	1k	0	Calm	.....	0	0	Clear	
Kittyhawk North Carolina	30.19	766.8	30.22	767.6	37	2.8	71	NE	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.28	743.7	30.32	770.1	47	8.3	77	N	4	1.8	.....	Haze	1s	.....	Calm	0.08	2.0	Clear	
La Crosse, Wisconsin	29.64	752.8	30.43	772.9	25	— 3.9	87	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	53	11.7	80	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Laredo, Texas	29.66	753.4	29.99	761.7	72	22.2	85	SE	6	2.7	.....	10cs	0	SE	.....	0	0	Cloudy	
Leavenworth, Kansas	29.53	750.0	30.43	772.9	33	0.6	89	.....	.....	.....	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.85	758.2	30.21	767.3	39.0	3.9	87	NE	4	1.8	.....	0	0	.....	.....	0.54	13.7	Clear	
Louisville, Kentucky	29.79	756.7	30.37	771.4	42	5.6	83	W	3	1.3	.....	.....	10s;sm'	.....	Calm;W	0.04	1.0	Smoky	
Lynchburg, Virginia	29.58	751.3	30.28	769.1	42	5.6	83	NE	2	0.9	.....	.....	10ks	.....	Calm	0.06	1.5	Cloudy	
Madison, Wisconsin	29.39	746.5	30.45	773.4	26	— 3.3	63	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.53	750.0	30.28	769.1	25	— 3.9	62	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.48	723.4	30.23	767.8	66	18.9	89	SE	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Memphis, Tennessee	30.05	763.3	30.38	771.6	45	7.2	92	NE	8	3.6	.....	.....	10s	.....	Calm	0.45	11.4	Cloudy	
Milwaukee, Wisconsin	29.62	752.3	30.40	772.1	30	— 1.1	68	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	30.24	768.1	30.29	769.4	60	15.6	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog	
Montgomery, Alabama	30.01	762.2	30.25	768.3	58	14.4	96	Calm	0	0	.....	1c	Fog	W	Calm	0	0	Foggy	
Morgantown, West Virginia	29.20	741.7	30.31	769.9	35	1.7	70	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Mt. Washington, N. H.	23.45	595.6	29.81	757.2	2	—16.7	72	NW	78	35.8	.....	0	0	.....	.....	0	0	Clear	
Nashville, Tennessee	29.82	757.4	30.37	771.4	48	8.9	78	N	4	1.8	.....	0	5ks	.....	N	0	0	Fair	
New Haven, Connecticut	30.09	764.3	30.22	767.6	18	— 7.8	68	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.14	765.5	30.20	767.1	19	— 7.2	54	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.21	767.3	30.27	768 8	64	17.8	94	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Newport, Rhode Island	30.10	764.5	30.15	765.8	21	— 6.1	57	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.08	764.0	30.28	769.1	21	— 6.1	71	NW	10	4.5	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.20	767.1	30.26	768.6	34	1.1	79	N	7	3.1	.....	0	Haze	.....	.....	0.02	0.5	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	nches.	illimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.34	694.4	30.08	761.0	26	— 3.3	81	NE	8	3.6	.....	10cs	0	Calm	....	0	0	Cloudy.....	
Olympia, Washington Ter.	30.07	763.8	30.11	764.8	32.2	0.1	89	NW	1	0.4	.....	0	Fog	.....	N	0	0	Fair.....	
Omaha, Nebraska	29.24	742.7	30.42	772.6	26	— 3.3	75	NW	4	1.8	.....	5c	0	NW	.....	0	0	Fair.....	
Oswego, New York	29.99	761.7	30.34	770.6	26	— 3.3	88	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Pembina, Dakota	29.32	744.7	30.22	767.6	14	—10.0	100	W	6	2.7	.....	0	2s	.....	Calm	0	0	Clear.....	
Philadelphia, Pa	30.22	767.6	30.28	769.1	27	— 2.8	76	N	16	7.2	.....	5k	0	NW	.....	0	0	Fair.....	
Phœnix, Arizona	28.97	735.8	30.84	783.3	43	6.1	83	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Pike's Peak, Colorado	17.61	447.3	29.82	757.4	11	—11.7	100	SW	26	11.6	.....	.....	10n	.....	Calm	0.27	6.9	Light snow..	
Pioche, Nevada	23.95	608.3	29.72	754.9	19	— 7.2	85	NW	6	2.7	.....	.....	10s	.....	Calm	0.32	8.1	Cloudy	
Pittsburg, Pennsylvania	29.47	748.5	30.34	770.6	28	— 2.2	88	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.58	751.3	30.30	769.6	23	— 5.0	86	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	30.08	764.0	30.13	765.3	10	—12.2	79	NW	6	2.7	.....	0	Haze	.....	.....	0	0	Clear.....	
Portland, Oregon	30.12	765.0	30.23	767.8	53.0	0.6	70	E	8	3.6	.....	0	5s	.....	.....	0	0	Fair	
Prescott, Arizona	24.77	629.2	30.13	765.3	31	— 0.6	89	S	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Pilot Point, Texas	29.13	739.9	29.97	761.2	44	6.7	91	N	4	1.8	.....	.....	10n	.....	N	0.02	0.5	Heavy rain..	
Punta Rassa, Florida	30.23	767.8	30.25	768.3	64	17.8	83	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Red Bluff, California	29.80	756.9	30.18	766.6	33	0.6	80	N	1	0.4	.....	0	1s	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.92	760.0	30.14	765.5	71	21.7	80	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Rochester, New York	29.65	753.1	30.32	770.1	22	— 5.6	72	SW	5	2.2	.....	5k	0	W	.....	0	0	Fair.....	
Roseburg, Oregon	29.55	750.6	30.14	765.5	31.0	— 0.6	89	Calm	0	0	.....	Haze	8s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	30.09	764.3	30.18	766.6	36	2.2	86	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.83	757.7	30.43	772.9	36	2.2	71	N	8	3.6	.....	5cs	5s	Calm	Calm	Inap.	Inap.	Cloudy.....	
St. Marks, Florida	30.24	768.1	30.25	768.3	59	15.0	100	NW	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Cloudy.....	
St. Paul, Minnesota	29.49	749.0	30.40	772.1	18	— 7.8	84	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	24	— 4.4	61	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
San Antonio, Texas	29.44	747.8	30.02	762.5	67	19.4	95	SE	4	1.8	.....	.....	10s	.....	Calm	0.04	1.0	Threatening	
San Diego, California	30.17	766.3	30.25	768.3	44	6.7	92	E	4	1.8	.....	0	5s	.....	Calm	0.49	12.4	Fair	
Sandusky, Ohio	29.63	752.6	30.34	770.6	34	1.1	79	E	5	2.2	.....	Haze	0	Calm	.....	0	0	Clear.....	
Sandy Hook, New Jersey	30.22	767.6	30.25	768.3	22	— 5.6	72	N	19	8.5	.....	5cs	0	N	.....	0	0	Fair.....	
San Francisco, California	30.11	764.8	30.18	766.6	44.7	7.1	81	SW	6	2.7	.....	0	8ks	.....	SW	0	0	Fair...	
Santa Fé, New Mexico	23.25	590.5	29.79	756.7	41	5.0	74	E	14	6.3	.....	.....	10s	.....	E	0.25	6.3	Cloudy.....	
Savannah, Georgia	30.08	764.0	30.17	766.3	62	16.7	94	W	6	2.7	.....	0	2s	.....	W	0	0	Fair.....	
Shreveport, Louisiana	30.02	762.5	30.24	768.1	66	18.9	95	Calm	0	0	.....	.....	10n	.....	Calm	1.07	27.2	Light rain...	
Silver City, New Mexico	24.39	619.5	30.68	779.3	40	4.4	73	NW	1	0.4	.....	0	5s	.....	Calm	0.05	1.3	Fair	
Smithville, North Carolina	30.20	767.1	30.24	768.1	42	5.6	91	N	9	4.0	.....	5cs	5s	W	W	0.11	2.8	Cloudy.....	
Springfield, Massachusetts	30.09	764.3	30.23	767.8	15	— 9.4	65	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	27.05	687.1	30.05	763.3	55	12.8	87	E	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy.....	
Thatcher's Island, Mass	30.10	764.5	30.16	766.1	19	— 7.2	69	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio	29.59	751.6	30.32	770.1	30	— 1.1	78	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy.....	
Tucson, Arizona	.....	.....	.....	.....	40	4.4	48	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Tybee Island, Georgia	30.16	766.1	30.19	766.8	57	13.9	94	W	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Umatilla, Oregon	30.03	762.8	30.57	776.5	20.0	— 6 7	85	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Unalashka, Aleutian Islands	.....	.....	.....	.....	40	4.4	48	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Uvalde, Texas	.....	.....	.....	.....	23	— 5.0	100	SW	.....	.....	10	.....	10s	.....	SW	0	0	Cloudy.....	
Vicksburg, Mississippi	29.20	741.7	30.00	762.0	67	19.4	89	SE	6	2.7	.....	.....	10s	.....	SE	0.03	0.8	Cloudy.....	
Virginia City, Montana	30.04	763.0	30.30	769.6	63	17.2	100	E	1	0.4	.....	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Visalia, California	24.39	619.5	29.87	758.7	3	—16.1	73	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C	29.82	757.4	30.21	767.3	32.5	0.3	92	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Wickenburg, Arizona	30.18	766.6	30.30	769.6	32	0.0	59	NW	8	3.6	.....	2ck	2ks	NW	NW	0	0	Fair	
Wilmington, N. Carolina	.....	.....	.....	.....	44	6.7	76	S	.....	.....	1	.....	10n	.....	SE	0 06	1.5	Light rain..	
Winnemucca, Nevada	30.15	765.8	30.23	767.8	42	5.6	83	N	7	3.1	.....	.....	10s	.....	NE	0.33	8.4	Cloudy.....	
Wood's Holl, Mass	25.72	653.3	30.08	764.0	11	—11.7	80	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Yankton, Dakota	30.12	765.0	30.16	766.1	17	— 8.3	67	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.11	739.4	30.53	775.4	16	— 8.9	74	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
	29.99	761.7	30.16	766.1	43	6.1	92	Calm	0	0	.....	0	0	.....	.....	0.59	15.0	Clear...	
SUB-SERIES.																			
Fayetteville, Ark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining.....	J. B. Gordon.
Havana, Cuba, W. I	28.75	730.2	30.22	767.6	39	3.9	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.15	765.8	30.20	767.1	71	21.7	75	E	1.2	0.5	.....	0	0	.....	.....	0	0	Clear.....	
Medellin, Colombia, S. A	30.17	766.3	30.18	766.6	74	23.3	81	Calm	0	0	.....	0	2s	.....	NE	0	0	....	James Gall.
Navassa, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Paramaribo, D. Guiana, S. A	29.95	760.7	30.03	763.8	77	25.0	.....	NE	25.2	11.3	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Santiago de Cuba, W. I	29.96	761.0	29.96	761.0	79	26.1	87	E	.....	.....	2	5k	5ks	E	.....	0	0	½ Cloudy....	C. J. Hering
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
.....	30.01	762.2	30.06	763.5	—34.0	—36.7	.....	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear..	[illegible] Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,533 (?) ft., or 466.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,740 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,522 (?) ft., or 1,468.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m., Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 2,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.08	764.0	39	3.9	39	3.9	73	NNW	1	0.4	.....	.....	8	.....	W	0	0	.....	.....	Fair.....
Navy Yard, Pensacola, Fla.	30.40	772.1	64	17.8	64	17.8	100	NW	2	0.9	.....	.....	Fog	.....	.....	.....	.....	.....	.....	Threatening
Navy Yard, Portsmouth, N.H	30.10	764.5	54	12.2	1	—17.2	.....	WNW	3	1.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....
Naval Hospital, Yokohama, Japan.....*	29.89‡	759.2‡	.....	.....	47	8.3	96	SW	.....	.....	3	.....	10ks;n;d	.....	SSW	0.42	10.7	.....	.....	Light rain....
Alaska, N 13° 50′, W. 90° 41′.....	30.14	765.5	82	27.8	79	26.1	62	NNE	.....	.....	2	.....	2	.....	SW	0	0	Mod'ate	NE	D. clouds.....
Alliance, Smyrna, Turkey.....	30.22‡	767.6‡	.....	.....	51	10.6	86	WNW	.....	.....	1–2	.....	2	.....	Calm	.....	.....	.....	.....	Misty.....
Ashuelot, N. 10° 42′, E. 108° 07′.....	30.07	763.8	80	26.7	77	25.0	82	ENE	.....	.....	3	.....	5	.....	NNE	.....	.....	Smooth	.....	Fair.....
Canonicus, New Orleans, La.....	30.20	767.1	45	7.2	53	11.7	93	S	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Foggy .....
Colorado, New York, N. Y.....	30.20	767.1	21	— 6.1	20	— 6.7	100	NW	5	2.2	.....	.....	2	.....	NW	0	0	.....	.....	Hazy .....
Constitution, N 50 36, W. 1° 08′.....	30.21‡	767.3‡	.....	.....	34	1.1	100	NE	9	4.0	.....	.....	10	.....	Calm	.....	.....	Smooth	.....	Misty.....
Despatch, Constantinople, Turkey	30.34‡	770.6‡	.....	.....	47	8.3	77	NNE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Fair .....
Essex, Stanley, Falkland Isl'ds	29.11	739.4	57	13.9	46	7.8	100	S	.....	.....	5	.....	8	.....	S	.....	.....	.....	.....	Squally.....
Franklin, Norfolk, Va.....	30.37	771.4	69	20.6	38	3.3	72	N	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....
Gettysburg, Genoa, Italy	29.95‡	760.7‡	.....	.....	54	12.2	67	NNE	.....	.....	4	.....	8	.....	.....	0	0	.....	.....	D. clouds.....
Hartford, Montevideo, Uruguay...	29.94‡	760.5‡	68	20.0	63	17.2	41	SW	16	7.2	.....	.....	2	.....	SW	0	0	Mod'ate	.....	Fair.....
Lackawana, Panama.....*...	29.71‡	754.6‡	.....	.....	77	25.0	91	NNW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.....
Michigan, Erie, Pa.....	30.12†	765.0†	.....	.....	22	— 5.6	86	WNW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair .....
Monocacy, N. 31° 37′, E. 126° 55′..*...	30.06‡	763.5‡	.....	.....	49	9.4	78	NNW	.....	.....	5–6	.....	10	.....	NNW	.....	.....	Long rough	SSE; NW	Rainy.....
Monongehela, Yokohama, Japan ....*..	29.80‡	756.9‡	.....	.....	40	4.4	100	S	.....	.....	0–1	.....	10	.....	S	.....	.....	.....	.....	Drizzling.....
New Hampshire, Port Royal, S. C.....	30.33†	770.4†	.....	.....	62	16.7	94	WNW	4	1.8	.....	.....	5	.....	.....	0	0	.....	.....	Misty.....
Onward, Callao, Peru.....	30.00†	762.0†	.....	.....	70	21.1	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy .....
Palos, Tientsin, China.....	30.44	773.2	24	— 4.4	15	— 9.4	100	W	.....	.....	0–5	.....	10?	.....	.....	.....	.....	.....	.....	Clear ?.....
Passaic, Washington, D. C.....	.....	.....	.....	.....	32	0.0	90	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair.....
Pensacola. S. 3° 15′, W. 84° 00′.....	29.92‡	760.0‡	.....	.....	73	22.8	100	SSW	10	4.5	.....	.....	5	.....	SSE	0	0	Smooth	SSE	Fair.....
Powhatan, Norfolk, Va.....	30.23	767.8	39	3.9	40	4.4	73	NNW	.....	.....	2	.....	2	.....	Calm	0	0	.....	.....	Clear.....
Quinnebaug, N. 35° 10′, W. 15° 59′.....	29.98‡	761.5‡	.....	.....	64	17.8	78	S	.....	.....	5	.....	8	.....	S	.....	.....	Mod'ate	.....	Cloudy.....
Ranger, Yokohama, Japan.....*...	29.90‡	759.4‡	.....	.....	54	12.2	87	SSW	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining.....
Richmond, N. 36° 31′, W. 22° 41′.....	29.59‡	751.6‡	.....	.....	64	17.8	83	S	.....	.....	6	.....	0	.....	.....	.....	.....	Mod'ate	S	Clear.....
Rio Bravo, Brownsville, Texas.....	30.13	765.3	71	21.7	69	20.6	100	SE	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....
Santee, Annapolis, Md.....	30.26‡	768.6‡	.....	.....	33	0.6	.....	N	.....	.....	1	.....	5?	.....	.....	0	0	.....	.....	Cloudy ?.....
St. Louis, League Island, Pa.....	30.15	765.8	55	12.8	28	— 2.2	.....	NNW	8	3.6	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy.....
Supply, Funchal, Madeira.....	30.05‡	763.3‡	.....	.....	66	18.9	84	WSW	.....	.....	0–1	.....	8	.....	SW	.....	.....	Smooth	.....	Cloudy.....
Trenton, Villafranca, France *...	30.03‡	762.8‡	.....	.....	62	16.7	66	S	.....	.....	1	.....	1	.....	Calm	0	0	.....	.....	Fair.....
Tuscarora, N. 11° 40′, W. 90° 49′.....	29.89‡	759.2‡	.....	.....	81	27.2	83	ENE	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Clear .....
Wabash, Boston, Mass.....	30.16‡	766.1‡	.....	.....	12	—11.1	80	NW	4	1.8	.....	.....	0	.....	.....	0	0	Mod'ate	.....	Clear .....
Wyoming, N. 38° 44′, E. 26° 30′.....	30.34	770.6	60	15.6	51	10.6	86	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear .....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Smooth	NW	Cloudy.....

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			Capt. Austin.
N. 7° 10′, W. 80° 15′		30.05†	763.3†	78	25.6	??	NNW			5		c		NNW	0	Light	NNE		Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia,																			
S. 33° 52′, E. 152° 16′		29.77	756.1							6				NNE				Gloomy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid, corrected for elevation, instrumental error not known.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 32° 10′, W. 158° 26′		30.21*	767.3*	63	17.2	83	S			4		ck		SSW		Mod'ate	S	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 5; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President: Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool		30.31*	769.9*	42	5.6		E			5		9		E	0			Cloudy	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian N. 55° 10′, W. 9° 0′		30.16*	766.1*	34	1.1		ESE			6		10k;s		ESE	0	smooth	ESE	Misty	Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the cooperation of the Observer named.																			
Schooner Addie Fuller, N. 37° 37′, W. 75° 20′		30.21	767.3	33	0.6	89	NNW	11				5c?		NW	0	Short	N	Clear?	Capt. James Jorgensen.

NOTE —The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

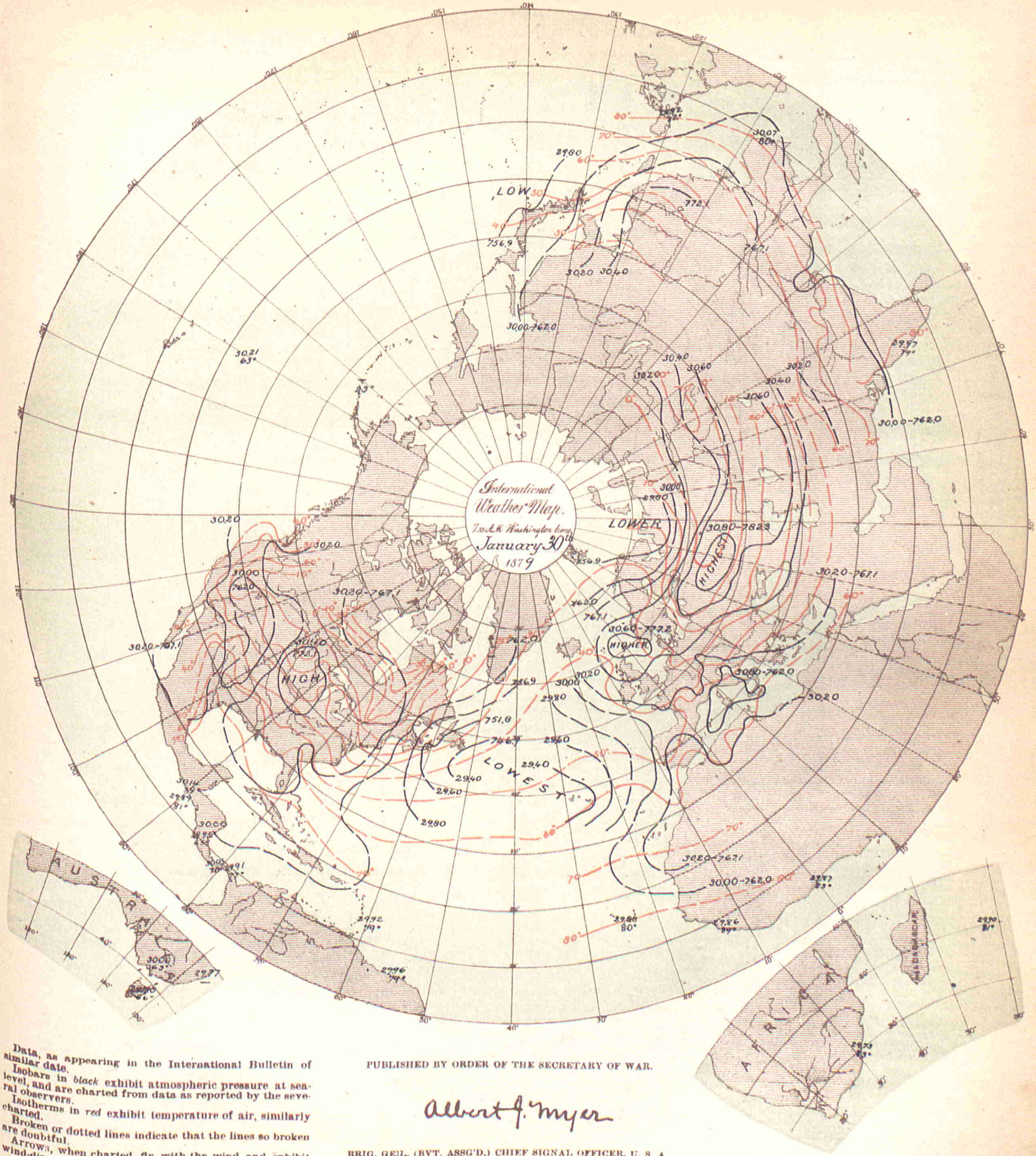
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JANUARY 31, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.28	769.2	59.7	15.4	85	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair.	
Nemours	.....	.....	30.18	766.6	60.3	15.7	87	WNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.15	765.8	56.1	13.4	79	NNE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Tourilliere.
La Calle	.....	.....	30.19	766.8	58.6	14.8	82	NW	.....	.....	4	.....	8	.....	.....	0.236	6.0	Very cloudy	Foufrede.
Tunis	.....	.....	30.19	766.9	60.1	15.6	61	NW	.....	.....	4	.....	5	.....	.....	0.016	0.4	Cloudy	Jacques.
Sfax	.....	.....	30.21	767.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.11	764.8	57.6	14.2	55	S	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.25	768.3	47.3	8.5	76	NW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	30.15	765.7	46.2	7.9	97	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.23	767.7	53.2	11.8	51	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.22	767.6	66.6	19.2	37	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4, except Mogador; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.63	752.6	30.21	767.2	34.3	1.3	85	NE	.....	.....	1	.....	10	.....	.....	0.244	6.2	Snowing	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.50	749.4	30.34	770.5	18.7	— 7.4	92	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.32	744.7	30.26	768.5	28.0	— 2.2	83	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.92	734.6	30.24	768.0	33.3	0.7	80	S	.....	.....	1	.....	10	.....	.....	0.299	7.6	.....	Andreas Rospini.
Hermannstadt	28.74	730.0	30.24	768.1	33.4	0.8	75	SSE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.80	731.6	30.22	767.5	31.8	— 0.1	94	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.20	741.8	30.26	768.7	23.5	— 4.7	98	SE	.....	.....	1	.....	10	.....	.....	0.016	0.4	.....	Dr. T. Stanecki.
Pola	29.93	760.1	30.04	763.0	48.0	8.9	66	E	.....	.....	1	.....	10	.....	.....	0.449	11.4	.....	I.R.Hydrographic Office.
Szathmar	29.82	757.5	30.31	769.9	34.0	1.1	90	W	.....	.....	2	.....	10	.....	.....	0.236	6.0	.....	Julius Csics, S. J.
Szegedin	29.93	760.3	30.23	767.8	32.7	0.4	90	.....	.....	.....	.....	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.98	761.5	30.08	764.1	43.5	6.4	62	ENE	.....	.....	2	.....	4	.....	.....	0	0	.....	P. Busin.
Vienna	29.50	749.4	30.26	768.7	29.8	— 1.2	98	ESE	.....	.....	1	.....	10	.....	.....	0.055	1.4	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.24	768.1	30.35	770.9	35.0	1.7	.....	W	6	2.7	.....	.....	7	.....	.....	0.050	1.27	D. clouds	W. Boswell.
Ardrossan	30.30	769.6	30.32	770.1	37	2.8	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	William McNeil.
Armagh, Observatory	.....	.....	30.25	768.3	32.9	0.5	.....	ESE	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.26	769.4	30.3	— 0.9	.....	ESE	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton	.....	.....	30.29	769.4	29.8	— 1.2	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.88	758.9	30.28	769.1	33.1	0.6	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	76.0	24.4	.....	S	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	30.29	769.4	32.9	0.5	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [O.
Cardington	.....	.....	30.36	771.1	32.6	0.3	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	30.15	765.8	30.29	769.4	32.2	0.1	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	28.59	726.2	30.13	765.3	28.0	— 2.2	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	30.24	768.1	30.28	769.1	35	1.7	.....	ESE	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.23	767.8	30.26	768.6	33	0.6	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Costello.
Falmouth, Observatory	29.87	758.7	30.11	764.8	39.5	4.2	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.24	691.9	29.56	750.8	89.0	31.7	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.66	753.4	29.90	759.4	87	30.6	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.05	763.3	35	1.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.11	764.8	30.17	766.3	62.7	17.1	.....	E	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.12	765.0	30.32	770.1	34.0	1.1	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.28	769.1	30.29	769.4	32	0.0	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	Hailing	G. T. Watson.
Greenwich, Royal Obs'y	30.10	764.5	30.28	769 1	31.6	— 0.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.93	760.2	30.16	766.1	36	2.2	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	Dr. S. E. Hoskins, F.R.S
Helston	30.02	762.5	30.14	765.5	40	4.4	.....	E	.....	.....	4	.....	10	.....	.....	0	0	Overcast	M. P. Moyle.
Holyhead	30.18	766.6	30.23	767.8	32	0.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.87	758.7	30.18	766.6	34.8	1.6	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	30.23	767.8	30.27	768.8	32.3	0.2	.....	E	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty	The Staff.
Leicester, Museum	30.03	762.8	30.30	769.6	32.7	0.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.00	762.0	30.08	764 0	60	15.6	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Sergt. Beckett, A. H. C'
Nairn	30.25	768.3	30.35	770.9	33	0.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.05	763.3	71.0	21.7	.....	NE	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.11	764.8	30.31	769.9	33.6	0.9	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.73	755.1	30.28	769.1	30.0	— 1.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.28	769.1	31	— 0.6	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.07	763.8	30.15	765.8	34.8	1.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.98	761.5	30.03	762.8	41	5.0	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Overcast	W. Kennedy.
Saint Ann's Head	29.99	761.7	30.17	766.3	34	1.1	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	30.42	772.6	39	3.9	.....	NNE	8	3.6	.....	.....	4	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	30.28	769.1	49.2	9.6	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	W. H. Lyne.
Sheffield	30.04	763.0	30.34	770.6	33.3	0.7	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.29	769.4	30.32	770.1	37.7	3.2	89	SE	.....	.....	1	.....	3	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stratfield Turgiss	30.06	763.5	30.29	769.4	31.3	— 0.4	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Rev. S. J. Perry.
Thurso	30.30	769.6	30.36	771.1	37	2.8	.....	Calm	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Rev. C. H. Griffith, F.M.S
Truro, Royal Institution	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	John Trotter.
Valencia, Observatory	29.83	757.7	29.86	758.4	42.8	6.0	.....	E	40	17.9	.....	.....	10	.....	.....	.....	.....	Misty	W. Newcombe.
SUB-SERIES.																			The Staff.
Hobart Town, (Tasmania)	.....	.....	29.94	760.5	62	16.7	68	SE	.....	.....	3	.....	0	.....	.....	0	0	.....	
Leith, Restalrig Park	.....	.....	30.36	771.1	34.0	1.1	.....	E	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy	Francis Abbott, F.R.A.S.
Mauritius, Observatory	29.76	755.9	29.94	760.6	81.0	27.2	69	E	18.0	8.0	.....	3	6	.....	E	0.10	2.5	Squally	Andrew Gibb.
Melbourne, Observatory	30.00	762.0	30.09	764.3	53.0	15.0	68	SSE	10	4.5	.....	.....	8	.....	.....	0	0	Fine	C. Meldrum.
Monach L't-house, (Hebrides)	.....	.....	30.33	770.4	41	5.0	.....	E	.....	.....	3	5	10	E	.....	0	0	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	30.30	769 6	41	5.0	.....	NE	.....	.....	4	.....	10	.....	.....	Blank	Blank	.....	J. Youngclause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.21	665.7	29.93	760.2	63.0	17.2	84	SE	.....	.....	2	lcs	.....	NE	.....	0	0	Fair	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.31	769.9	30.36	771.1	23.2	— 4.9	86	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	.....
Fanöe	30.30	769.7	30.32	770.2	23.9	— 4.5	90	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	30.39	771.8	30.43	772.9	36.3	2.4	84	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Farõe)	30.40	772.1	30.43	773.0	38.8	3.8	82	NE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	30.14	765.6	30.31	769.9	23.4	— 4.8	98	SE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.67	753.5	30.22	767.5	35.6	2	96	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	30.14	765.5	30.26	768.5	32.0	0.0	92	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	30.04	763.1	30.12	765.1	47.5	8.6	70	N	.....	.....	2	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.63	752.5	30.22	767.5	35.1	1.7	88	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	30.00	762.0	30.30	769.6	32.9	0.5	89	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.34	745.2	30.24	768.2	32.9	0.5	.....	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carre, Director.
Bourg-en-Bresse, N. School	29.36	745.8	30.28	769 0	32.5	0.3	92	N	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Marlot, Director.
Bourges, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Waquet, Director
Brest, Naval Observatory	29.89	756.9	30.04	763.0	39.2	4.0	87	ESE	.....	.....	2	.....	9	.....	ESE	.....	.....	Raining	M.de Rermaur, Director
Carcassonne, Normal School	29.67	753.7	30.10	764.5	55.4	13	66	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	September, Director.
Caen, Normal School	30.11	764.9	30.19	766.8	34.2	1.2	89	E	.....	.....	2	.....	10	.....	.....	0.12	3.	Covered	M. Lair, Director.
Chartres, Normal School	29.61	752.0	30.20	767.1	31.6	— 0.2	86	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.3	30.23	767.8	32.0	0.0	.....	NNE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.76	730.4	30.15	765.7	46.8	8.2	81	NW	.....	.....	1	.....	2	.....	.....	0.016	0.4	Slightly cl'dy	Alluard, Director.
Commercy, Normal School	29.35	745.5	30.26	768.6	32.5	0.3	100	E	.....	.....	1	.....	kn	.....	E	0	0	Misty	Dr. Coulet, Director.
Commune de Gréasque*	28.96	735.6	30.10	764.6	48.2	9.0	56	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Kina, Director.
Grenoble, Normal School	29.43	747.6	30.24	768.0	38.5	3.6	80	ENE	.....	.....	1	.....	5	.....	N	0	0	Foggy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.93	760.2	30.18	765.9	39.9	4.4	97	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.89	759.3	30.22	767.6	34.5	1.4	96	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.27	743.4	30.24	768.0	31.8	— 0.1	93	NNE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Baudry, Director.
Lorient, Naval Observatory	30.02	762.6	30.12	765.1	36.7	2.6	96	ESE	.....	.....	3	.....	.....	.....	E	0 189	4.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	29.05	737.9	30.13	765.3	33.8	1	81	SSE	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Barbier, Director.
Nismes, Normal School	29.89	759.2	30.10	764.4	52.2	11.2	73	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.16	639.0	.....	.....	32.5	0.3	96	E	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Alluard, Director.
Rochefort, Naval Obs'y	30.11	764.8	30.14	765.6	41.4	5.2	100	E	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Lt. Decante, Director.
Rouen, Normal School	30.16	766.0	30.24	768.2	33.3	0.7	82	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'	30.15	765.8	30.18	766.6	34.9	1.6	91	ESE	.....	.....	3	.....	10	SE	SE	0	0	Foggy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	30.06	763.5	30.23	767.7	33.6	0.9	83	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	25.96	735.6	30.06	763.6	46.4	8	72	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.48	748.9	30.23	767.7	34.3	1.3	100	ENE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	74.1	23.4	..	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi
Lyons, Observatory	.....	.....	30.22	767.6	35.1	1.7	93	N	.....	.....	1	.....	10	.....	.....	0.004	0.1	Foggy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Cave.
Nice	.....	.....	30.05	763.2	55.4	13.0	66	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Perpignan	29.94	760.4	.....	.....	31.6	— 0.2	96	ENE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	.....	Marié Davy, Director.
Pic du Midi, (Summit,) H. P.	30.00	762.0	30.11	764.7	55.0	12.8	49	S	3.8	1.7	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Plantade,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Toulouse, Observatory	22.48	570.9	.....	.....	38.3	3.5	.....	N	.....	.....	1	.....	1	.....	.....	0	0	Clear	Gen'l de Nansouty.
Tours	29.43	747.4	30.15	765.9	44.6	7.0	98	E	.....	.....	1	.....	10	.....	.....	0	0	.....	M. Mercadier Juller.
Versailles Observatory	29.97	761.3	30.17	766.3	35.2	1.8	96	ENE	.....	.....	1	.....	10	.....	.....	0.012	0.3	Misty	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.51	775.0	30.54	775.7	31.5	— 0.3	80	N	5.1	2.3	.....	.....	10k	.....	NE	0	0	Covered	Dr. A. Bernany, Director
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Marc Dechevrens, S. J
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.35	745.4	30.19	766.9	32.4	0.2	85	SE	.....	.....	2	.....	10	.....	.....	0.016	0.4	Foggy	Prof. Dr. Hoh.
Berlin	30.13	765.2	30.32	770.0	20.1	— 6.6	81	SE	.....	.....	2	.....	10	.....	.....	0	0	...	Prof. Arndt.
Breslau	29.75	755.7	30.29	769.3	22.8	— 5.1	82	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.76	755.8	30.21	767.3	33.8	1.0	85	E	.....	.....	1	.....	10	NE	.....	0.020	0.5	.....	Albert Senz.
Cassel	29.58	751.2	30.19	766.7	28.9	— 1.7	89	ENE	.....	.....	2	.....	10	E	.....	0.110	0.28	Snowing	Dr. H. Möhl.
Crefeld	30.07	763.8	30.23	767.9	28.4	— 2.0	85	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	25.5	— 3.6	89	E	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.86	758.4	30.24	768.1	30.6	— 0.8	.....	NE	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	.....	Physical Society.
Friedrichshafen	28.71	729.1	30.20	767.1	35.6	2.0	70	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	30.23	767.8	30.30	769.7	21.4	— 5.9	90	E	.....	.....	4	.....	10	.....	.....	0.004	0.1	Light snow	Captain F. Hegemann
Kiel	30.30	769.6	30.32	770.0	22.6	— 5.2	88	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.35	770.9	30.44	773.2	9.5	—12.5	78	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.43	772.8	14.0	—10.0	.....	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.82	757.8	30.27	768.8	23.9	— 4.5	90	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Light snow	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.45	773.5	30.50	774.7	8.8	—12.9	92	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	30.42	772.7	30.44	773.1	8.6	—13.0	61	SE	.....	.....	1	.....	4	.....	.....	0.004	0.1	.....	A. Lothes.
Posen	30.06	763.5	30.37	771.5	17.1	— 8.3	76	E	.....	.....	6	.....	10	.....	.....	0.008	0.2	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.66	753.3	30.24	768.1	33.1	0.6	96	Calm	.....	.....	0	.....	10	NE	.....	0	0	Hazy	Imp. University Observatory.
Stuttgart	29.24	742.6	30.23	767.7	33.3	0.7	83	N	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.63	727.3	30.22	767.5	32.9	0.5	92	SW	1.1	0.5	.....	.....	10	.....	.....	0.020	0.5	.....	Dr. Van Bebber.
Wustrow, Naval School	30.30	769.5	30.32	770.1	28.8	— 1.8	100	ESE	.....	.....	2	.....	2s	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.78	756.4	30.18	766.5	52.7	11.5	.....	NE	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Raining	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.03	762.8	30.08	764.0	75.9	24.4	53	WNW	13.0	5.8	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.55	750.7	30.04	762.9	79.1	26.2	28	NNW	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.95	760.8	29.99	761.7	79.5	26.4	68	NNW	15.0	6.7	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.96	710.2	29.96	761.0	80.9	27.2	.....	NE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.34	745.1	30.10	764.6	68.7	20.4	31	W	1.8	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.45	697.1	29.98	761.4	79.2	26.2	19	E	8.0	3.6	.....	.....	1	.....	.....	0	0	Blue sky	
Roorkee	29.06	738.2	29.99	761.7	68.4	20.2	21	NW	3.5	1.6	.....	.....	0	.....	.....	0	0	D. clouds	
Agra	29.48	748.8	30.06	763.5	72.7	22.6	33	W	.....	.....	.....	.....	0	.....	.....	0	0	.....	
Nagpur	28.96	735.6	30.01	762.2	81.6	27.6	26	Calm	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Lucknow	29.62	752.3	30.00	762.1	69.1	20.6	27	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	
Allahabad	29.71	754.6	30.03	762.6	71.4	21.9	43	NNW	2.5	1.1	.....	.....	0	.....	.....	0	0	Gloomy	
Patna	29.78	756.3	29.96	761.0	78.3	25.7	34	W	2.9	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.96	710.1	30.01	762.2	70.6	21.4	30	WNW	9.6	4.3	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.96	761.0	30.04	763.1	77.5	25.3	46	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.98	761.4	30.00	762.0	69.9	21.1	53	W	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.55	750.6	29.95	760.8	69.0	20.6	37	NE	2.1	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.94	760.4	30.03	762.8	68.6	20.3	87	Calm	4.6	2.1	.....	.....	0	.....	.....	0	0	Blue sky	
Sibsagar	29.68	753.9	30.04	762.9	60.9	16.1	88	ENE	1.1	0.5	.....	.....	0	.....	.....	0	0	Misty	
Jubbulpore	28.66	728.0	30.05	763.2	74.6	23.7	39	Calm	1.3	0.6	.....	.....	4	.....	.....	0.01	0.3	Blue sky	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	0	0	Blue sky	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.9 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.5	30.09	764.2	46.0	7.8	59	SE	6.3	2.8	.....	.....	4	.....	.....	0.339	8.6	.....	Prof. Giovanni Clodig.
Padua	29.98	761.4	30.09	764.3	45.9	7.7	61	NE	4.9	2.2	.....	.....	9	NE	.....	0.350	8.9	.....	Prof. Dott. Lorenzoni
Milan	29.57	751.1	30.11	764.8	45.0	7.2	83	W	.....	.....	1	.....	9	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.20	741.6	30.14	765.5	38.3	3.5	93	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.16	715.3	30.13	765.4	33.3	0.7	96	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.87	758.6	30.06	763.6	52.3	11.3	50	NW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.81	757.2	30.07	763.8	50.0	10.0	61	NE	.....	.....	2	.....	10	.....	.....	0.181	4.6	.....	Cav. F. Meucci
Leghorn	29.97	761.3	30.06	763.5	50.0	10.0	85	W	0.7	0.3	.....	.....	6	.....	.....	0.118	3.0	.....	Prof. P. Monte.
Pesaro	30.01	762.2	30.06	763.5	44.6	7.0	84	NE	15.0	6.7	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.87	758.7	30.05	763.2	52.5	11.4	80	SSW	4.9	2.2	.....	.....	9	.....	.....	0.008	0.2	.....	Prof. P. S. Ferrari.
Lecce	29.78	756.5	30.04	763.1	53.4	11.9	84	WNW	5.6	2.5	.....	.....	8	.....	.....	0.189	4.8	.....	Prof. C. De Giorgi.
Cagliari	29.89	759.3	30.09	764.2	55.0	12.8	56	NW	.....	.....	4	.....	7	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	740.8	30.08	763.9	53.2	11.8	74	NW	1.8	0.8	.....	.....	10	.....	.....	0.283	7.2	.....	Prof. D. Conti.
Palermo	29.83	757.7	30.09	764.3	55.4	13.0	70	WSW	1.8	0.8	.....	.....	8	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.03	762.8	30.11	764.8	56.1	13.4	63	ENE	2.5	1.1	.....	.....	7	NW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29 54	750.2	30.09	764.3	54.1	12.3	67	NW	3.1	1.4	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.26	768.6	30.28	769.1	39.2	4.0	78	NW	4.1	1.9	.....	.....	4ck	WNW	.....	0	0	Fair	R. Iwasaki.
Nagasaki, I. M. Obs'y	30.13	765.3	30.34	770.6	36.6	2.6	77	N	0.9	0.4	.....	.....	0	.....	.....	0	0	Very clear...	S. Takehayashi.
Tokei (Yeddo) Observatory	29.99	761.7	30.06	763.5	38.5	3.6	56	NNE	14.1	6.3	.....	.....	9ks	.....	SW	0	0	Cloudy	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.06	636.5	30.24	768.2	42.8	6.0	53	SW	.....	.....	1	8c	0	.....	.....	0	0	Misty	Prof. L. Perez.
Leon	24.43	620.7	30.09	764.3	54.0	12.2	75	S	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.06	585.6	30.18	761.5	46.9	8.3	66	Calm	0	0	.....	0	3s	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	46.9	8.3	58	NE	.....	.....	1	1c	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.95	760.8	29.96	761.1	69.8	21.0	93	S	.....	.....	2	1	5	E	S	0.059	1.5	Threatening	M. M. Cházaro.
San Luis Potosi	24.21	614.9	30.28	769.0	45.0	7.2	28	SE	.....	.....	1	3	4	N	SE	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz	30.02	762.4	30.05	763.1	72.5	22.5	86	SE	.....	.....	0	3c	4sk	.....	S	0	0	½ clouded	Prof. J. Rossell.
Zacatecas	22.54	572.6	.....	.....	53.6	12	60	SW	.....	.....	1	0	2	.....	.....	0	0	Clear	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.32	592.5	30.08	764.0	42.3	5.7	91	E	0.9	0.4	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.35	720.1	30.01	762.3	72.7	22.6	65	NE	2	1	.....	0	1	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.94	760.4	30.07	763.8	70	21.1	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6219.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.1 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Groningen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Helder	30.26	768.5	30.31	769.9	26.1	— 3.3	.....	NE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.28	769.1	30.28	769.1	27.5	— 2.5	.....	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	30.27	768.9	30.27	768.9	27.7	— 2.4	100	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
.....	30.24	768.1	30.29	769.3	27.9	— 2.3	78	NE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.29	769.4	30.35	770.8	35.6	2.0	64	S	1.1	0.5	.....	.....	4	.....	.....	0	0	.....	
Brönö	30.36	771.2	30.40	772.2	29.5	— 1.4	68	NNE	9	4	.....	.....	6	.....	.....	0	0	.....	
Christiania	30.19	766.9	30.35	770.9	29.3	— 1.5	92	SSW	.....	.....	.....	.....	10	.....	.....	0.039	1.0	Foggy	
Tromsö	30.15	765.7	30.19	766.8	25.5	— 3.6	78	W	7	3	.....	.....	10	.....	.....	0.331	8.4	Light snow	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 1h., p. m., local time, instead of 1h., 4 m n.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.49	749.0	29.68	753.9	56.7	13.7	86	WNW	15.4	6.9	.....	.....	3	.....	.....	0.039	1.0	.....	Dr. J. A. Sampaio.
Campo Major	29.13	739.8	30.17	766.4	49.3	9.6	76	E	5.6	2.5	.....	.....	9	WSW	.....	0	0	.....	Dr. A. M. R. dos Santos
Funchal, (Madeira)	29.93	760.1	30.01	762.3	67.1	19.5	86	SSW	6.3	2.8	.....	.....	9	.....	.....	0.252	6.4	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	755.0	30.09	764.3	54.9	12.7	80	SSE	12.5	5.6	.....	.....	10	S	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.67	753.7	29.74	755.5	63.3	17.4	65	W	12.5	5.6	.....	.....	4	.....	.....	0.197	5.0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	
D. Fernando	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
India	.....	.....	.....	.....	A. M. de Sande, Comd,t.
Mindello	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Rio Douro	.....	.....	.....	.....	
Rio Lima, Capt. da Silva Costa.	.....	.....	.....	.....	A. J. de Mattos, Com'd't.
Porto de S. Jose de Bissao, Senegambia	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Sá da Bandeira, St. Paul de Loando	.....	.....	0	.....	Blue sky..... A. Ferreira, 2nd Lt.
Sado	.....	.....	2	.....	D. clouds..... F. Teixeira da Silva, Com'd't.
Tejo, Macao, China	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
.....	2	N	D. Clouds ...		M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.91	759.8	30.37	771.5	16.0	— 8.9	75	E	7	3	.....	.....	1ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	30.01	762.3	30.48	774.1	11.8	—11.2	88	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	30.25	768.4	30.52	775.3	8.8	—12.9	92	SW	9	4	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.31	769.8	30.32	770.2	18.5	— 7.5	97	W	9	4	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Central Physical Obs.
Kieff	29.78	756.4	30.49	774.4	10.6	—11.9	96	ESE	9	4	.....	.....	10ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.44	773.2	30.51	775.0	17.2	— 8.2	76	E	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.45	773.4	30.47	773.9	26.6	— 3.0	85	NE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	30.02	762.4	30.63	778.0	10.4	—12.0	74	S	7	3	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.38	771.6	30.60	777.3	10	—12.0	63	E	18	8	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.84	758.0	29.86	758.5	24.1	— 4.4	93	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	29.02	737.1	30.55	775.9	27.3	— 2.6	92	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.72	780.3	30.64	778.2	20.1	— 6.6	42	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.98	761.5	30.51	775.0	6.8	—14.0	62	WSW	2	1	.....	.....	1	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.98	761.4	30.27	768.9	14.9	— 9.5	67	WSW	18	8	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.82	732 0	29.87	758.6	5.2	—14.9	75	W	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.75	730.2	30.58	776.6	30.9	— 0.6	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.34	745.2	29.90	759.5	11.3	—11.5	87	SSW	31	14	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Yeniseisk	29.21	741.8	29.52	749.7	9.0	—12.8	82	SSW	13	6	.....	.....	10	.....	.....	.....	.....	Light clouds	Marks.
Peking, (China)	30.26	768.7	30.41	772.3	22.6	— 5.2	48	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	29.79	756.7	29.88	758.9	—18.4	—28.0	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.01	762.2	30.12	765.0	53.6	12	64	SW	2.3	1.03	.....	.....	0	.....	.....	0	0	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.98	761.6	30.04	763 0	63.0	17.2	54	SE	2.8	1.24	.....	1	5	W	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.4	.....	.....	47.1	8.4	78	S	2.4	1.06	.....	.....	6	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.93	709.5	.....	.....	44 8	7.1	83	E	1.5	0.67	.....	.....	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	30.06	763.5	30.21	767.4	56.1	13.4	74	ENE	1.0	0.44	.....	.....	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.03	737.3	29.93	760.3	51.3	10.7	78	SE	5.6	2.5	.....	.....	10	.....	.....	0.224	5.7	Raining.....	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I.	30.02	762.6	30.09	764.3	63.0	17.2	88	Calm	0	0	.....	0	1k	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands,	29.87	758.9	29.93	760.2	80.4	27.0	83	ESE	2.7	1.2	.....	1s	0	.....	.....	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.06	763.5	30.16	766.0	60.8	16.0	72	SE	10.4	4.7	.....	3	7	SE	S	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.92	760.0	30.01	762.3	67.3	19.6	91	E	0	0	.....	3k	3kn	E	E	0	0	Couldy.....	Leonardo de Tejeda, Ch'f. Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.26	768.7	30.30	769.7	16.9	— 8.4	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	30.20	769.3	30.34	770.6	25.5	— 3.6	87	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	30.26	768.5	30.31	769.8	33.8	— 1.0	90	ENE	.....	.....	2	.....	6	.....	.....	0	0	.....	
Stockholm	30.17	766.3	30.35	770.8	23.4	— 4.8	90	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	30.30	769.6	30.36	771.1	24.8	— 4.0	82	SE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.24	768.1	30.32	770.0	25.3	— 3.7	93	SW	9.6	4.3	.....	.....	10	.....	.....	0.044	1.11	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor F. Plantamour, Director of the Observatory at Geneva.

Geneva	28.74	730.0	30.24	768.2	29.8	— 1.2	94	NNE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.51	724.2	30.23	767.7	32.5	0.3	85	W	.....	.....	2	.....	9	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.9 mm.; Thermometer, —3.4 cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.33	770.4	48.9	9.4	58	SE	3	1.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.6	58.6	14.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.12	765.0	30.24	768.1	59.9	15.5	59	NNE	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.51	749.5	29.58	751.3	13.1	—10.5	81	NW	25	11.2	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.53	750.0	29.85	758.2	26	— 3.3	.....	SW	1	0.4	.....	.....	8s	.....	SW	0.61	0.3	Cloudy	W. R. Bigg.
*Chatham, N B	29.47	748.5	29.53	750.0	6	—14.4	93	Calm	0	0	.....	2k	8ks	SW	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.42	747.2	29.47	748.5	17	—18.3	94	NW	7	3.1	.....	.....	10n	.....	Calm	0.350	8.89	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	29.54	750.3	29.74	755.4	19.9	— 6.7	97	W	.....	.....	1	.....	10n	.....	.....	0.07	1.8	Overcast	James Smith, M. A.
Esquimault, B. C.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
*Father Point, Quebec	30.26	768.6	30.31	769.9	31.0	— 0.6	89	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
Fredericton, N. B	29.62	752.3	29.64	752.8	12	—11.1	70	W	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	J. McWilliams.
*Fort Garry Manitoba	29.54	750.3	29.60	751.8	10.1	—12.2	77	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
Granton, Ontario	29.69	754.1	30.64	778.2	— 2	—18.9	97	N	2	0.9	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
*Halifax, N. S	28.77	730.7	29.94	760.5	22	— 5.6	.....	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
Hamilton, Ontario	29.39	746.5	29.53	750.0	18	— 7.8	94	NW	5	2.2	.....	1cs	5ks	.....	.....	Inap.	Inap.	Cloudy	F. Allison, M. A.
Heart's Content, N. F	29.61	752.1	30.30	769.6	26.7	— 2.9	86	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
*Kingston, Ontario	29.43	747.5	29.46	748.3	32	0.0	100	NE	.....	.....	1	.....	10	.....	.....	0.05	1.3	Snowing	E. Weedon.
Little Glace Bay, N. S	29.50	749.3	29.85	758.2	24	— 4.4	87	W	6	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	S. Woods, M. A.
Moose Factory, Ontario	29.40	746.7	29.44	747.8	27.7	— 2.4	87	W	.....	.....	5	7k	0	W	.....	0.10	2.5	Fair	C. H. Rigby.
*Montreal, Quebec	30.05	763.3	30.09	764.3	6.7	—14.1	93	N	.....	.....	2	.....	10n	.....	.....	0.02	0.5	Cloudy	J. R. Nason.
*Parry Sound, Ontario	29.58	751.3	29.80	756.9	17	— 8.3	95	Calm	0	0	.....	.....	10n	.....	.....	0.10	2.5	Heavy snow	C. H. McLeod, C. E.
Peterboro, Ontario	29.18	741.2	29.93	760.2	13	—10.6	91	W	4	1.8	.....	5k	5ks	SW	SW	0	0	Cloudy	Rev. R. Mosley.
Port Dover, Ontario	29.10	739.1	29.89	759.2	24.3	— 4.3	47	Calm	.....	.....	.....	0	0	.....	.....	.....	.....	Fine	J. F. Jeffers, B. A.
Port Hastings, N. S	29.26	743.2	29.94	760.5	24	— 4.4	93	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	29.38	746.2	29.43	747.5	18.7	— 7.4	.....	NW	7	3.1	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
*Quebec, Quebec	29.35	745.5	30.04	763.0	24	— 4.4	89	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Rockliffe, Ontario	29.41	747.0	29.76	755.9	10	—11.1	79	NW	.....	.....	5	.....	10n	.....	NW	0	0	Cloudy	Capt. Ashe, R. N.
St. Andrews, N. B	29.32	744.7	29.82	757.4	16	— 8.9	74	N	2	0.9	.....	.....	8s	.....	N	Inap.	Inap.	Cloudy	W. H. McIntyre.
St. John, N. B	29.61	752.1	29.66	753.4	11	—11.7	79	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.42	747.2	29.59	751.6	11	—11.7	100	NW	9	4.0	.....	0	5k	.....	.....	Inap.	Inap.	Fair	G. Murdock, C. E.
Stayner, Ontario	29.21	741.9	29.95	760.7	32	0.0	80	NW	29	13.0	.....	.....	8ks	.....	N	Inap.	Inap.	Cloudy	K. Stewart.
Stratford, Ontario	29.09	738.9	29.90	759.4	29	— 1.7	90	NW	10	4.5	.....	5k	0	NW	.....	0	0	Cloudy	R. J. Cole.
*Sydney, C. B	28.64	727.4	30.00	762.0	22.0	— 5.6	94	S	8	3.6	.....	0	9s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Toronto, Ontario	29.32	744.7	29.36	745.7	27	— 2.8	88	W	6	2.7	.....	.....	10n	.....	.....	0.23	5.8	Cloudy	T. C. Hill.
Windsor, N. S	29.53	750.0	29.93	760.2	25	— 3.9	86	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Sub-Series.	29.43	747.5	29.53	760.0	18.5	— 7.5	92	.....	.....	.....	.....	.....	10n	.....	.....	0	0	Overcast	Prof. John E. Oram.
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	100	SE	.....	.....	.....	Fog	Fog	.....	.....	0.38	9.7	Snowing	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud: Amount. Upper. 0—10.	Cloud: Amount. Low'r. 0—10.	Cloud: Direction. Upper. From—	Cloud: Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.64	752.8	29.88	758.9	20	— 6.7	85	Calm	0	0	.....	5cs	2s	NW	NW	0	0	Fair	
Alpena, Michigan	29.34	745.2	30.02	762.5	24	— 4.4	74	W	12	5.4	.....	0	2s	.....	NW	0	0	Clear	
Atlanta, Georgia	28.86	733.0	30.00	762.0	52	11.1	93	NE	5	2.2	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Atlantic City, New Jersey	30.09	762.0	30.01	762.2	31	— 0.6	69	W	8	3.6	.....	0	8ks	.....	W	0	0	Cloudy	
Augusta, Georgia	29.92	760.0	30.09	764 3	52	11.1	74	S	3	1.3	.....	.....	10s;fg	.....	Calm;W	0	0	Cloudy	
Baltimore, Maryland	29.98	761.5	30.03	762.8	34	1.1	70	W	1	0.4	.....	5ck	Fog	W	Calm	0	0	Foggy	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	29	— 1.7	89	W	10	4.5	.....	8k	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.60	726.4	30.46	773.7	8	—13.3	78	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.54	724.9	29.83	757.7	64	17.8	94	SW	2	0.9	.....	.....	10s	.....	SW	0.37	9.4	Cloudy	
Boise City, Idaho	27.48	698.0	29 44	747.8	13	—10.6	71	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.67	753.6	29.84	757.9	28.5	— 1.9	72	W	2	0.9	.....	5k	2s	W	W	0	0	Fair	
Brackettville, Texas	28.87	733.3	29.88	758.9	65	18.3	73	E	5	2.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Breckenridge, Minnesota	29.41	747.0	30.55	776.0	2	—16.7	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.89	759.2	29.96	761.0	72	22.2	90	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.23	742.4	29.96	761.0	23	— 5.0	86	SW	6	2.7	.....	5cs;k	Haze	Calm; W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	21	S	.....	.....	1	2c	0	E	.....	0	0	Clear	
Burlington, Vermont	29.51	749.5	29.81	757.2	23	— 5.0	86	S	8	3.6	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Cairo, Illinois	29.77	756.1	30.17	766.3	40	4.4	82	N	7	3.1	.....	.....	10s	.....	N	0.15	3.8	Cloudy	
Camp Apache, Arizona	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	32	0.0	69	Calm	0	0	.....	2cs	0	E	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	26	— 3.3	52	N	.....	.....	1	0	0	.....	.....	0.08	2.0	Clear	
Camro, California	27.48	698.0	30.05	763.3	26	— 3.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.13	765.3	30.13	765.3	34	1.1	90	Calm	0	0	.....	10cs	0	NE	.....	0	0	Cloudy	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	35	1.7	70	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.13	765.3	30.14	765.5	43	6.1	75	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape May, New Jersey	29.99	761.7	30.02	762.5	33	0.6	79	SW	22	9.8	.....	5c	0	W	.....	0	0	Fair	
Castroville, Texas	29.20	741.7	29.89	759.2	66	18.9	95	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Threatening	
Charleston, South Carolina	30.09	764.5	30.15	765.8	54	12.2	80	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	16	— 8.9	100	N	17	7.6	.....	.....	10n	.....	Calm	0.14	3.6	Light snow	
Chicago, Illinois	29.46	748.3	30.19	766.8	28	— 2.2	88	NW	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Cincinnati, Ohio	29.48	748.8	30.16	766.1	37	2.8	71	NW	2	0.9	.....	7k	2s	NW	NW	0	0	Threatening	
Cleveland, Ohio	29 33	745 0	30.09	764.3	27	— 2.8	64	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.24	717.3	29.91	759.7	51	10.6	79	NW	8	3.6	.....	.....	10s	.....	SW	0.18	4.6	Cloudy	
Columbus, Ohio	29.23	742.4	30.11	764.8	30	— 1.1	68	NW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Corpus Christi, Texas	28.14	714.7	29.82	757.4	53	11.7	67	Calm	0	0	.....	10k	0	Calm	.....	Inap.	Inap.	Cloudy	
Corsicana, Texas	29.51	749.5	29.97	761.2	62	16.7	88	W	5	2.2	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Davenport, Iowa	29.56	750.8	30.24	768.1	29	— 1.7	78	N	13	5.8	.....	2cs	5s	Calm	Calm	0	0	Fair	
Deadwood, Dakota	25.63	651.0	.....	.....	18	— 7.8	68	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.83	732.3	30.00	762.0	48	8.9	93	NW	9	4.0	.....	.....	10s	.....	NW	0.45	11.4	Cloudy	
Denison, Texas	29.16	740.7	29.96	761.0	50	10.0	93	NW	6	2.7	.....	.....	10s	.....	NW	1.03	26.2	Cloudy	
Denver, Colorado	24.92	633.0	30.14	765.5	23	— 5.0	86	N	12	5.4	.....	.....	10n	.....	Calm	0.15	3.8	Light snow	
Des Moines, Iowa	29.34	745.2	30.27	768.8	30	— 1.1	89	NE	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Detroit, Michigan	29.35	745.5	30.05	763.3	27	— 2.8	76	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.41	696.2	29.76	755.9	37	2.8	100	NE	12	5.4	.....	.....	10n	.....	NE	0.81	20.6	Light rain	
Dubuque, Iowa	29.55	750.6	30.30	769.6	25	— 3.9	75	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Duluth, Minnesota	29.57	751.1	30.30	769.6	20	— 6.7	70	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.14	740.1	29.86	758.4	65	18.3	89	SE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	
Eastport, Maine	29.57	751.1	29.64	752.8	12	—11.1	61	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	69	20.6	90	SE	.....	.....	6	2ks	5c	SE	Calm	0	0	Cloudy	
El Paso, Texas	26.35	669.3	.....	.....	58	14.4	42	W	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Erie, Pennsylvania	29.26	743.2	30.01	762.2	29	— 1.7	89	SW	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Escanaba, Michigan	29.46	748.3	30.15	765 8	26	— 3.3	75	N	5	2.2	.....	5c	0	N	.....	0	0	Fair	
Florence, Arizona	28.62	726.9	30.22	767.6	34	1.1	70	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.62	650.7	29.69	754.1	25	— 3.9	51	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	46	7.8	71	Calm	0	0	.....	.....	10ks	.....	SW	0	0	Cloudy	
Fort Gibson, Indian Ter	29.40	746.7	29.94	760.5	46	7.8	92	SE	2	0.9	.....	.....	10s	.....	SE	0.99	25.1	Cloudy	
Fort Griffin, Texas	28.74	730.0	30.03	762.8	48	8.9	93	W	4	1.8	.....	.....	10s	.....	W	0.13	3.3	Cloudy	
Fort Keogh, Montana	27.87	707.9	.....	.....	9	—12.8	.....	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.83	706.9	29.75	755.6	55	12.8	56	NW	3	1.3	.....	.....	10s	.....	NW	0.05	1.3	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.90	759.4	44	6.7	92	SW	8	3.6	.....	.....	.....	Fog	SW	0.69	17.5	Dense fog	
Fort Stevenson, Dakota	28.60	726.4	.....	.....	4	—15.6	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.26	717.8	29 78	756.4	65	18.3	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Galveston, Texas	29.99	761.7	30.03	762.8	63	17.2	100	SE	4	1.8	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Graham, Texas	28.95	735.3	30.02	762.5	46	7.8	92	W	4	1.8	.....	.....	10s	.....	Calm	0.38	9.7	Cloudy	
Grand Haven, Michigan	29.47	748.5	30.15	765.8	31	— 0.6	69	N	10	4.5	.....	0	2s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.33	745.0	30.14	765.5	33	0.6	79	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Indianola, Texas	29.99	761.7	30.02	762.5	66	18.9	95	S	5	2.2	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Jacksboro, Texas	28.85	732.8	30.00	762.0	48	8.9	93	W	6	2.7	.....	.....	10s	.....	Calm	0.31	7.9	Cloudy	
Jacksonville, Florida	30.08	764.0	30.10	764.5	52	11.1	86	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.55	750.6	30.20	767.1	30	— 1.1	78	NE	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	30.07	763.8	30.10	764.5	65	18.3	89	N	10	4.5	.....	5k	0	N	.....	0	0	Fair	
Kittyhawk North Carolina	30.08	764.0	30.10	764.5	35	1.7	90	N	7	3.1	.....	.....	10s	.....	N	0	0	Cloudy	
Knoxville, Tennessee	29.08	738.6	30.11	764.8	43	6.1	92	NW	3	1.3	.....	.....	10s	.....	Calm	0.24	6.1	Threatening	
La Crosse, Wisconsin	29.52	749.8	30.30	769.6	25	— 3.9	87	NW	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	34	1.1	61	NE	1	0.4	.....	.....	8s	.....	Calm	0	0	Cloudy	
Laredo, Texas	29.51	749.5	29.84	757.9	70	21.1	85	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.29	744.0	30.17	766.3	35	1.7	61	NE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.78	756.4	30.13	765.3	45.0	7.2	80	NE	3	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.55	750.6	30.13	765.3	37	2.8	71	N	5	2.2	.....	2k	8s	N	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.37	746 0	30.08	764.0	37	2.8	80	SE	1	0.4	.....	0	8ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	29.20	741.7	30.25	768.3	24	— 4.4	74	N	12	5.4	.....	2cs	0	S	.....	0	0	Fair	
Marquette, Michigan	29.39	746.5	30.18	766.6	28	— 2.2	66	N	18	8.0	.....	.....	10s	.....	N	0	0	Cloudy	
Mason, Texas	28.36	720.3	30.09	764.3	60	15.6	88	Calm	0	0	.....	.....	10n	.....	N	0.20	5.1	Light rain	
Memphis, Tennessee	29.72	754.9	30.05	763.3	44	6.7	100	NE	10	4.5	.....	.....	10s	.....	Calm	1.26	32.0	Cloudy	
Milwaukee, Wisconsin	29.41	747.0	30.18	766.6	27	— 2.8	76	NW	12	5.4	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.04	763.0	30.08	764.0	62	16.7	96	N	1	0.4	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.76	755.9	29.99	761.7	61	16.1	66	S	5	2.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
Morgantown, West Virginia	28.99	736.3	30.08	764.0	34	1.1	79	Calm	0	0	.....	6	1s	.....	Calm	0	0	Clear	
Mt. Washington, N. H.	23.18	588.8	29.54	750.3	3	—16.1	100	NW	51	22.8	.....	.....	10n	.....	NW	0.03	0.8	Light snow	
Nashville, Tennessee	29.56	750.8	30.11	764.8	44	6.7	92	NE	2	0.9	.....	.....	10n	.....	.....	0.04	1.0	Light rain	
New Haven, Connecticut	29.79	756.7	29.91	759.7	29	— 1.7	77	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
New London, Connecticut	29.87	758.7	29.92	760.0	28	— 2.2	77	Calm	0	0	.....	1ck	1s	W	SW	0	0	Clear	
New Orleans, Louisiana	29.99	761.7	30.05	763.3	65	18.3	89	SW	4	1.8	.....	.....	10ks	.....	SW	0	0	Cloudy	
Newport, Rhode Island	29.84	757.9	29.89	759.2	30	— 1.1	68	W	16	7.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
New York, New York	29.80	756.9	29.95	761.5	28	— 2.2	78	W	12	5.4	.....	0	2s;sm'e	.....	Calm	0	0	Fair	
Norfolk, Virginia	30.04	763.0	30.10	764.5	34	1.1	79	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.27	692.6	29.98	761.5	27	— 2.8	94	NE	24	10.7	.....	.....	10n	.....	Calm	2.24	56.9	Heavy snow	
Olympia, Washington Ter.	30.31	769.9	30.35	770.9	25.)	— 3.8	87	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Omaha, Nebraska	29.10	739.1	30.26	768.6	32	0.0	69	N	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Oswego, New York	29.56	750 8	29.88	758.9	35	1.7	70	SW	11	4.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Pembina, Dakota	29.62	752.3	30.57	776.5	— 5	—20.6	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa	29.95	760.7	30.00	762.0	31	— 0.6	79	SW	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.98	736 1	30.89	784.6	34	1.1	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	17.57	446.3	29.78	756.4	— 3	—19.4	100	W	12	5.4	.....	.....	10s	.....	W	1.75	44.5	Cloudy.....	
Pioche, Nevada	24.11	612.4	29.88	758.9	15	— 9.4	82	SW	1	0.4	.....	0	8s	.....	Calm	0.05	0.5	Fair.....	
Pittsburg, Pennsylvania	29.22	742.2	30.07	763.8	27	— 2.8	88	NW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.33	745.0	30.02	762.5	26	— 3.3	75	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	29.73	755.1	29.78	756.4	23	— 5.0	73	W	4	1.8	.....	5k	0	Calm	.....	0	0	Fair.....	
Portland, Oregon	30.32	770.1	30.42	772.6	32.0	0.0	74	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.84	630.9	30.20	767.1	20	— 6.7	70	W	1	0.4	.....	0	0	.....	.....	0.08	2.0	Clear.....	
Pilot Point, Texas	29.09	738.9	29.93	760.2	43	6.1	91	SE	4	1.8	.....	.....	10n	.....	SE	0.06	1.5	Light rain..	
Punta Rassa, Florida	30.10	764.5	30.11	764.8	60	15.6	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Red Bluff, California	29.84	757.9	30.22	767.6	36	2.2	70	N	8	3.6	.....	0	1s	.....	Calm	.....	.....	Clear.....	
Rio Grande City, Texas	29.76	755 9	29.98	761.5	67	19.4	95	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.26	743.2	29.90	759.4	29	— 1.7	78	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon	29.80	756.9	30.41	772.4	30.0	— 1.1	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sacramento, California	30.08	764.0	30.16	766.1	37	2.8	88	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.60	751.8	30.20	767.1	36	2.2	80	NE	5	2.2	.....	8k;cs	0	N	.....	0	0	Fair.....	
St. Marks, Florida	30.07	763.8	30.08	764.0	60	15.6	100	S	8	3.6	.....	.....	10s;fg	.....	Calm	0	0	Cloudy.....	
St. Paul, Minnesota	29.45	748.0	30.34	770.6	22	— 5.6	85	W	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.83	656.1	30.16	766.1	24	— 4.4	61	Calm	0	0	.....	0	0	.....	.....	0.27	6.9	Clear.....	
San Antonio, Texas	29.27	743.4	29.84	757.9	68	20.0	90	SE	1	0.4	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy.....	
San Diego, California	30.08	764.0	30.15	765.8	44	6.7	92	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.39	746.5	30.10	764.5	30	— 1.1	78	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	30	— 1.1	68	W	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear	
San Francisco, California	30.08	764.0	30.15	765.8	45	7.2	61	SW	10	4.5	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	23	— 5.0	73	NW	10	4.5	.....	0	0	.....	.....	0.08	2.0	Clear	
Savannah, Georgia	30.02	762.5	30.11	764.8	51	10.6	83	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	66	18.9	89	W	8	3.6	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy.....	
Silver City, New Mexico	24.33	618.0	30.81	782.6	25	— 3.9	75	NW	1	0.4	.....	0	2s	.....	Calm	0	0	Fair.....	
Smithville, North Carolina	30.13	765.3	30.17	766.3	46	7.8	84	E	3	1.3	.....	10cs	0	NW	.....	0	0	Cloudy.....	
Springfield, Massachusetts	29.75	755.6	29.89	759.2	22	— 5.6	58	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Stockton, Texas	27.06	687.3	30.06	763.5	48	8.9	70	SW	4	1.8	.....	10ck	0	Calm	.....	0	0	Cloudy.....	
Thatcher's Island, Mass	29.76	755.9	29.81	757.2	29	— 1.7	78	NW	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Toledo, Ohio	29.36	745.7	30.08	764.0	28	— 2.2	88	W	5	2.2	.....	Haze	Haze	Calm	Calm	0	0	Hazy.....	
Tucson, Arizona	.....	.....	.....	.....	33	0.6	51	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Tybee Island, Georgia	30.08	764.0	30.11	764.8	53	11.7	93	NE	9	4.0	.....	.....	10ks	.....	NW	0	0	Cloudy....	
Umatilla, Oregon	30.14	765.5	30.68	779.3	19.0	— 7.2	85	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	24	— 4.4	100	SW	.....	.....	6	.....	10s	.....	SW	0	0	Cloudy.....	
Uvalde, Texas	29.11	739.4	29.91	759.7	66	18.9	89	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	65	18.3	92	SW	7	3.1	.....	2cs	8s	Calm	SW	0.21	5.3	Cloudy.....	
Virginia City, Montana	24.37	619.0	29.85	758.2	2	—16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.78	756.4	30.16	766.1	39	3.9	82	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.....	
Washington, D. C.	29.93	760 2	30.05	763.3	30	— 1.1	78	S	4	1.8	.....	5c;ck	2ks;fg	W	W;SE	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	35	1.7	80	NW	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear.....	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	42	5.6	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Winnemucca, Nevada	25.82	655.8	30.18	766.6	15	— 9.4	65	E	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.82	757.4	29.85	758.2	31	— 0.6	89	W	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Yankton, Dakota	29.08	738.6	30.47	773.9	26	— 3.3	75	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.99	761.7	30.16	766.1	44	6.7	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	28.38	720.8	29.81	757.2	39	3.9	91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Misting.....	J. B. Gordon.
Havana, Cuba, W. I	30.04	763.0	30.09	764.3	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.93	760.2	30.01	762.2	77	25.0	.....	NE	10.2	4.6	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.95	760.7	29.95	760.7	80	26.7	87	NE	.....	.....	2	.....	8ks	.....	NE	0.250	6.35	Cloudy.....	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.02	762.5	30.08	764.0	—29.0	—33.9	.....	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	I. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m., Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 2,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.07	763.8	39.5	4.2	39.5	4.2	68	SE	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Navy Yard, Pensacola, Fla.	30.20	767.1	60	15.6	60	15.6	100	WNW	8	3.6	.....	.....	Fog	.....	.....	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.80	756.9	53	11.7	25	— 3.9	87	W	4	1.8	.....	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan *...	29.81‡	757.2‡	.....	.....	40.5	4.7	44	NE	.....	.....	5	..	8k;ks	.....	WSW	0	0	.....	.....	Cloudy	
Alaska, N 14° 12', W. 91° 52'	30.06	763.5	78	25.6	75	23.9	86	NE	.....	.....	2	.. ..	2	.....	.....	0	0	Smooth	.....	D. clouds	
Alliance, Smyrna, Turkey	30.24‡	768 1‡	.....	.....	60	15.6	45	NE	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ashuelot, N. 13° 07', E. 109° 27'	30.12	765.0	78	25.6	74	23.3	86	NNW	.....	.....	5	.....	5	.....	NNW	.....	.....	Mod'ate	N	Fair	
Canonicus, New Orleans, La	30.05	763.3	47	8.3	62	16.7	100	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Foggy	
Colorado, New York, N. Y.	29.92	760.0	29	— 6.7	30	— 1.1	100	SW	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Constitution, N. 49° 23', W. 4° 20'	30.04‡	763.0‡	.....	.....	42	5.6	100	SSE	14	6.3	.....	.....	10	.....	Calm	.....	.....	Smooth	SE	Misty	
Despatch, Constantinople, Turkey	30.37‡	771.4‡	.....	.....	49	9.4	78	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Essex, Stanley, Falkland Isl'ds	29.37	746.0	68	20.0	47	8.3	100	NNE	.....	.....	1	.....	8	.....	NE	.....	.....	Smooth	.....	Fair	
Franklin, Norfolk, Va.	30.24	768.1	69	20.6	34	1.1	79	N	16	7.2	.....	.....	2	.....	W	0	0	.....	.....	Cloudy	
Gettysburg, Genoa, Italy	30.01‡	762.2‡	.....	.....	48	8.9	92	N	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Blue sky	
Hartford, Montevideo, Uruguay	29.98	761.5	70	21.1	72	22.2	35	NNW	26	11.6	.....	.....	0	.....	.....	0	0	Mod'ate	NW	Clear	
Lackawana, Panama *...	29.67‡	753.6‡	.....	.....	76	24.4	95	SSW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.	
Michigan, Erie, Pa	29.98†	761.5†	.....	.....	28	— 2.2	77	WSW	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Monocacy, N. 31° 19', E. 124° 52' *...	30.41‡	772.4‡	.....	.....	42	5.6	74	NNW	.....	.....	5-6	.....	10	.....	NNW	.....	.....	Rough to mod.	NW	Cloudy	
Monongehela, Yokohama, Japan *...	29 99‡	761.7‡	.....	.....	36	2.2	90	NNE	.....	.....	4-6	.....	7	.....	N	Blank	Blank	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.23†	767.8†	.....	.....	54	12.2	93	E	6	2.7	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.00†	762.0†	.....	.....	69	20.6	90	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.40	772.1	32	0.0	20	— 6.7	85	S	.....	.....	0-5	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.	.....	.....	.....	.....	31	— 0.6	90	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Pensacola, S 4° 00', W. 85° 40'	29.92‡	760.0‡	.....	.....	76	24.4	95	ESE	7	3.1	.....	.....	2	.....	ESE	0	0	Smooth	ESE	Fair	
Powhatan, Norfolk, Va.	30.10	764.5	34	1.1	34	1.1	79	S	.....	.....	0-1	.....	10	.....	Calm	0	0	.....	.....	Overcast	
Quinnebaug, N. 36° 13', W. 11° 46'	30.01‡	762.2‡	.....	.....	62	16.7	88	SW	.....	.....	5	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Ranger, Yokohama, Japan *...	29.98‡	761.5‡	.....	.....	44	6.7	60	NNE	.....	.....	3	.....	8	.....	SW	.....	.....	Smooth	.....	Cloudy	
Richmond, N. 36° 03', W. 18° 25'	29.86‡	758.4‡	.....	.....	65	18.3	84	S	.....	.....	5	.....	5	.....	.....	.....	.....	Mod'ate	WSW	Fair	
Rio Bravo, Brownsville, Texas	29.94	760.5	71	21.7	70	21.1	95	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.13‡	765 3‡	.....	.....	31	— 0.6	.....	W	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.90	759.4	45	7.2	29	— 1.7	.....	SW	3	1.3	.....	.....	8	.....	NW	0	0	.....	.....	Fair	
Supply, N. 32° 37', W. 16° 55'	30.05‡	763.3‡	.....	.....	67	19.4	95	W	.....	.....	4-5	.....	5	.....	WNW	.....	.....	Smooth	.....	Showery	
Trenton, Villafranca, France *...	30.06‡	763.5‡	.....	.....	63	17.2	57	SSW	.....	.....	0-2	.....	1	.....	S;W	0	0	.....	.....	Fair	
Tuscarora, N. 12° 45', W. 92° 26'	29.87‡	758.7‡	.....	.....	81	27.2	78	NNW	.....	.....	0-1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	29.81‡	757.2‡	.....	.....	29	— 1.7	78	W	6	2.7	.....	.....	2	.....	.....	0	0	.....	.....	Hazy	
Wyoming, Smyrna, Turkey	30.36	771.1	62	16.7	58	14.4	76	ENE	.....	.....	1	.....	2	.....	NE	.....	.....	Smooth	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given is generally that at noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			
S. S. Granada																			
N. 8° 55', W. 84° 20'		30.03†	762.8†	81	27.2	??	Calm			0		e		Calm	0			Clear	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia,																			
S. 33° 57', E. 157° 58'		29.85	758.2				S			4.5				SSW		Confused.	NE	Gloomy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid, corrected for elevation, instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thomp on.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 32° 01', W. 162° 47'		30.11*	764.8*	61	16.1	82	NW			6		k		N		Rough cross	NW	Showery	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana,																			
S. S. Ohio																			
Liverpool		30.25*	768.3*	40	4.4	91	E			4		9		E	0			Cloudy	Captain Sargent.
S. S. Pennsylvania, Capt. Harris																			Captain Morrison.
																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian.																			
N. 53° 34', W. 3° 38'		30.08*	764.0*	30	—1.1		ESE			5		10k;s				Smooth		Misty.	Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Corrected for temperature and elevation; instrumental error not known.

MARINE SERIES. (Miscellaneous.)

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller,																			
Off Cape Henry, Va.		30.13	765.3	37	2.8	81	SW	8	3.6			10s		W	0	Short		Overcast	Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASS'G'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 1, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
8:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Mile per hour	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Mogador, Marocco	.....	.....	30.28	769.2	60.1	15.6	.....	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.18	766.6	61.9	16.6	89	SSE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.10	764.4	60.8	16.0	73	E	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Tourillere.
La Calle	.....	.....	30.10	764.4	60.1	15.6	76	NNE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.16	766.1	62.1	16.7	60	WNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Jacques.
Sfax	.....	.....	30.24	768.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.05	763.2	64.4	18.0	36	S	.....	.....	2	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.24	768.2	54.3	12.4	88	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.12	765.1	56.5	13.6	95	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	30.20	767.1	59.7	15.4	48	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.21	767.4	64.6	18.1	43	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.52	749.8	30.10	764.4	34.2	1.2	89	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.8	30.14	765.6	22.6	— 5.2	96	NNE	.....	.....	2	.....	10	.....	.....	0.122	3.1	.....	Dr. Wierzbiski
Eperies	29.13	739.8	30.05	763.2	31.6	— 0.2	89	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.77	730.7	30.08	764.0	31.5	— 0.3	89	S	.....	.....	2	.....	8	.....	.....	0.236	6.0	.....	Andreas Rospini.
Hermannstadt	28.56	725.3	30.06	763.6	28.6	— 1.9	90	SSE	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.63	727.1	30.03	762.7	32.4	0.2	92	Calm	.....	.....	0	.....	10	.....	.....	0.071	1.8	.....	Prof. C. Wagner.
Lemberg	29.05	737.8	30.10	764.5	25.5	— 3.5	97	SE	.....	.....	1	.....	10	.....	.....	0.201	5.1	Snowing	Dr. T. Stanecki.
Pola	29.95	760.6	30.03	763.6	47.3	8.5	74	Calm	.....	.....	0	.....	8	.....	.....	0.189	4.8	Sleeting	I.R.Hydrographic Office.
Szathmar	29.62	752.3	30.11	764.7	33.8	1.0	92	NE	.....	.....	1	.....	10	.....	.....	0.126	3.2	.....	Julius Csics, S. J.
Szegedin	29.76	755.9	30.06	763.4	32.9	0.5	92	S	.....	.....	2	.....	10	.....	.....	0.024	0.60	.....	Karl Stancel.
Trieste	29.98	761.6	30.09	764.2	46.9	8.3	88	Calm	.....	.....	0	.....	10	.....	.....	0	0	Almost cl'dy	P. Busin.
Vienna	29.32	744.6	30.07	763.8	31.1	— 0.5	94	Calm	.....	.....	0	.....	10	.....	.....	0.035	0.9	Snowing	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Aberdeen	30.01	762.2	30.12	765.0	35.0	1.7	.....	SW	8	3.6	.....	.....	5	.....	.....	0.070	1.78	Blue sky.....	W. Boswell.
Ardrossan	30.01	762.2	30.03	762.8	34	1.1	.....	ENE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	William McNeil.
Armagh, Observatory	.....	.....	29.88	758.9	32.8	0.2	.....	E	19	8.5	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.96	761.0	30.0	— 1.1	.....	ESE	31	13.9	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton, (Sharples)	.....	.....	30.04	763.0	30.2	— 1.0	.....	SE	18	8.0	.....	.....	10	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	29.66	753.4	30.06	763.5	32.1	0.1	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	80	26.7	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	30.08	764.0	31.0	— 0.6	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	30.08	764.0	29.6	— 1.3	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.95	760.7	30.09	764.3	30.2	— 1.0	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Daly, R. E.
Dartmoor	28.28	718.3	29.80	756.9	33.0	0.6	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Rain & fog..	Alexander Watt.
Donaghadee	29.90	759.4	29.94	760.5	33	0.6	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	30.01	762.2	30.04	763.0	31	— 0.6	.....	SE	.....	.....	3	.....	7	.....	.....	.....	.....	¾ clouded...	J. Costello.
Falmouth, Observatory	29.49	749.0	29.72	754.9	43.6	6.4	.....	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	The Staff.
Fort Napier, (Natal)	27.58	700.5	29.89	759.2	67.0	19.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. S. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.71	754.6	29.94	760.5	86	30.0	.....	W?	.....	.....	0?	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.60	751.8	35	1.7	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.07	763.8	30.12	765.0	61.4	16.3	.....	N	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.82	757.4	30.03	762.8	30.0	— 1.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.11	764.8	30.12	765.0	30	— 1.1	.....	SE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.06	763.5	29.9	— 1.2	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.63	752.6	29.86	758.4	40	4.4	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	Dr. S. E. Hoskins, F.R.S.
Helston	29.65	753.1	29.77	756.1	48	8.9	.....	SE	.....	.....	4	.....	10n	.....	.....	0.95	24.1	Raining.....	M. P. Moyle.
Holyhead	29.75	755.6	29.81	757.2	34	1.1	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	John Tilston.
Jersey	29.60	751.8	29.90	759.4	39.6	3.9	.....	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	J. Fisher.
Kew, Observatory	30.01	762.2	30.05	763.3	31.8	— 0.1	.....	E	21	9.4	.....	.....	10	.....	.....	.....	.....	Misty.....	The Meteorological Of.
Leicester, Museum	29.79	756.7	30.16	766.1	30.0	— 1.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.12	765.0	30.20	767.1	59	15.0	.....	NW	.....	.....	1	.....	2k	.....	.....	.....	.....	Blue sky.....	Sergt. H. J. Beckert, A. H. C.
Nairn	29.98	761.5	30.08	764.0	34	1.1	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.98	761.5	70.5	21.4	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.88	758.9	30.08	764.0	31.6	— 0.2	.....	SE	.....	.....	4	.....	10k	.....	SE	2.77	70.4	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.47	748.5	30.03	762.8	28.6	— 2.2	.....	E	.....	.....	3–4	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.01	762.2	30	— 1.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Light snow.	H. E. Bellamy.
Plymouth	29.72	754.9	29.80	756.9	39.5	4.2	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	John Merrifield.
Roche's Point	29.51	749.5	29.55	750.6	45	7.2	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	29.56	750.8	29.73	755.1	33	0.6	.....	ESE	.....	.....	7	.....	10	.....	.....	.....	.....	Snowing.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	30.09	764.3	37.2	2.9	.....	N	5	2.2	.....	.....	4	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.12	765.0	53.0	11.7	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	W. H. Lyne.
Sheffield	29.78	756.4	30.08	764.0	30.9	— 0.6	.....	ESE	.....	.....	2	.....	10	.....	.....	0.09	2.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.96	761.0	30.00	762.0	32.4	0.2	86	E	.....	.....	5	.....	2	.....	.....	0.115	2.92	D. clouds.....	Francis Redford, A. M.
Stonyhurst Observatory	29.62	752.3	30.02	762.5	31.0	— 0.6	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing.....	Rev. S. J. Perry.
Stratfield Turgiss	29.82	757.4	30.05	763.3	29.5	— 1.4	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing.....	C. H. Griffith, F. M. S.
Thurso	30.02	762.5	30.09	764.3	38	3.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro Royal Institution	.....	.....	29.72	754.9	49	9.4	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	29.51	749.5	29.53	750.0	49.3	9.6	.....	E	24	10.7	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Meteorological Of.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.11	764.8	31.0	— 0.6	.....	E	.....	.....	2	0	0	.....	.....	0	0	Fine.....	Andrew Gibb.
Mauritius, Observatory	.....	.....	30.00	762.0	80.5	26.9	76	ENE	9.0	4.0	.....	4	6	.....	NE	0.12	3.05	Overcast.....	C. Meldrum.
Melbourne, Observatory	29.93	760.2	30.02	762.5	65.0	18.3	72	SSE	12	5.4	.....	.....	7	.....	.....	0	0	Dense haze.	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.05	763.3	37	2.8	.....	E	.....	.....	4	3	3	E	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.01	762.2	39	3.9	.....	SE	.....	.....	4	3	7	SE	.....	.....	.....	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Brig Catherine	.....	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.21	665.7	29.93	760.2	63.0	17.2	88	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.22	767.5	30.26	768.7	25.2	— 3.8	82	SE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Fanöe	30.21	767.4	30.23	767.9	23.0	— 5.0	84	SE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	30.28	769.0	30.32	770.1	28.0	— 2.2	85	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	30.14	765.6	30.18	766.5	38.5	3.6	82	NE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	
Vestervig	30.06	763.4	30.23	767.7	23.0	— 5.0	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.3	30.01	762.3	37.4	3	93	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.98	761.4	30.10	764.4	36.0	2.2	61	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.98	761.4	30.06	763.4	45.7	7.6	75	N	.....	.....	1	.....	5	SW	W	0	0	Cloudy	M. Girand, Director.
Bar-sur-Seine	29.45	748.1	30.04	763.0	41.5	5.3	74	SE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	C. Saillard, Director.
Beauvais, Normal School	29.78	756.5	30.08	764.1	34.3	1.3	78	E	.....	.....	1	.....	10	.....	NE	0	0	Covered	Frer. Eugene Marie, Dir.
Besançon, Normal School	29.19	741.3	30.11	764.9	35.6	2	73	E	.....	.....	1	.....	2	.....	SW	0	0	Slightly cl'dy	A. Carre, Director.
Bourg-en-Bresse, N. School	29.14	740.1	30.12	765.1	35.4	1.9	93	N	.....	.....	1	.....	n	N	N	0	0	Misty	M. Marlot, Director.
Bourges, Normal School	29.46	748.3	30.03	762.7	44.2	6.8	88	E	.....	.....	1	.....	5	E	E	0	0	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.54	750.2	29.78	756.4	45.7	7.6	91	SSE	.....	.....	3	.....	10	.....	SSE	0.374	9.50	Foggy	M. de Rermaur, Director
Carcassonne, Normal School	29.60	751.7	30.01	762.3	52.5	11.4	63	NNE	.....	.....	1	.....	2	W	E	0	0	Slightly cl'dy	September, Director.
Caen, Normal School	29.88	759.0	29.96	760.9	38.1	3.4	83	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.37	746.0	29.97	761.1	32.0	0	93	E	.....	.....	1	.....	10	.....	.....	0	0	Foggy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	756.0	30.10	764.4	35.4	1.9	96	ENE	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.4	30.02	762.4	46.0	7.8	72	NW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.19	741.5	30.11	764.9	33.4	0.8	96	E	.....	.....	1	.....	10kn	.....	E	0	0	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.93	734.7	30.07	763.7	51.8	11.0	65	N	.....	.....	2	.....	8	.....	SSW	0	0	Very cloudy	M. Kina, Director.
Grenoble, Normal School	29.32	744.8	30.12	765.1	36.7	2.6	86	ENE	.....	.....	1	.....	Fog	.....	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.74	755.4	29.96	761.0	46.8	8.2	83	E	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.70	754.3	30.01	762.3	36.3	2.4	89	SSE	.....	.....	2	.....	8	.....	SSE	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baudry, Director.
Lorient, Naval Observatory	29.37	746.0	29.86	758.5	43.2	6.2	97	SE	.....	.....	3	.....	.....	.....	SE	0.157	4.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	28.95	735.2	30.03	762.7	37.4	3	83	SSE	.....	.....	1	.....	kn	.....	NNW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.85	758.3	30.07	763.6	50.0	10	71	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	Boyer, Director.
Privas, Normal School	28.97	735.7	30.07	763.6	40.6	4.8	90	N	.....	.....	1	c	.....	N	N	0	0	Foggy	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.06	636.5	.....	.....	34.5	1.4	74	SW	.....	.....	3	.....	10	.....	NW	0	0	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.1	29.96	760.9	52.2	11.2	86	S	.....	.....	1	.....	2	WSW	WSW	0.20	5.	¼ covered	Lt. Decante, Director.
Rouen, Normal School	29.94	760.4	30.02	762.6	34.3	1.3	79	SE	.....	.....	2	.....	10	.....	SW	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.84	757.8	29.87	758.6	41.4	5.2	84	SSE	.....	.....	4	.....	5	SSE	SSE	0.068	1.72	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.87	758.7	30.04	762.9	36.0	2.2	76	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.93	734.8	30.01	762.2	55.4	13	66	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Versailles Observatory	29.51	749.6	30.00	762.0	34.5	1.4	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.1	30.08	763.9	39.4	4.1	98	SE	.....	.....	1	.....	10	.....	NW	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.07	763.8	38.7	3.7	76	ESE	.....	.....	1	.....	9	.....	.....	0	0	Hazy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.75	628.6	30.07	763.6	42.8	6.0	57	SSW	.....	.....	2	.....	4	.....	SSE	0	0	.....	M. Cave.
Nice	.....	.....	30.06	763.4	52.7	11.5	79	W	.....	.....	1	.....	8	.....	.....	0	0	¾ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.76	755.8	.....	.....	34.5	1.4	81	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	29.95	760.6	30.05	763.3	48.9	9.4	80	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.52	570.2	.....	.....	35.1	1.7	.....	W	.....	.....	2	.....	4	.....	.....	0	0	Fair	Gen'l de Nansouty.
Toulouse, Observatory	29.31	744.4	30.03	762.8	51.4	10.8	82	SSE	.....	.....	2	.....	5	.....	.....	0.028	0.7	.....	M. Mercadier Julier.
Tours	29.77	756.1	29.97	761.1	41.0	5.0	91	E	.....	.....	1	.....	10	.....	W	0	0	Covered	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.43	772.9	30.45	773.5	34.7	1.5	85	E	4.7	2.1	.....	6ck	.....	SW	.....	0	0	Cloudy	Marc Declevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.06	763.6	30.6	— 0.8	85	W	.....	.....	4	.....	10	.....	.....	0.028	0.7	Foggy	Prof. Dr. Hoh.
Berlin	30.03	762.8	30.22	767.5	21.9	— 5.6	88	SE	.....	.....	1	.....	8	.....	.....	0.028	0.7	.....	Prof. Arndt.
Breslau	29.61	752.3	30.15	765.8	22.5	— 5.3	85	ENE	.....	.....	2	.....	10	.....	.....	0.015	0.38	Snowing	Royal University Obs'y
Carlsruhe	29.66	753.3	30.11	764.7	33.4	0.8	76	NE	.....	.....	1	.....	10	NE	.....	0	0	.....	Albert Senz.
Cassel	29.51	749.5	30.12	765.0	24.1	— 4.4	89	N	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.97	761.1	30.13	765.2	28.8	— 1.8	70	NE	.....	.....	3	.....	8	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	26.2	— 3.2	78	E	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.76	755.8	30.13	765.4	31.5	— 0.3	.....	NE	.....	.....	1	.....	8	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.60	726.4	30.00	761.9	38.8	3.8	55	SSW	.....	.....	4	.....	7	WSW	.....	0	0	.....	M. Wilhelm.
Hamburg	30.16	766.0	30.23	767.9	19.4	— 7.0	83	E	.....	.....	2	.....	8ks	.....	.....	0.012	0.3	Hazy	Captain F. Hegemann
Kiel	30.19	766.9	30.21	767 4	26.8	— 2.9	78	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.21	767.3	30.30	769.6	9.5	—12.5	72	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.24	768.0	15 6	— 9.1	.....	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.74	755.4	30.19	766.9	22.6	— 5.2	90	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.25	768.3	30.30	769.5	11.3	—11.5	89	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Skalweit.
Neufahrwasser	30.29	769.3	30.30	769.7	19.0	— 7.2	78	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.95	760.8	30.27	768.9	14.4	— 9.8	77	NE	.....	.....	6	.....	1	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.56	750.7	30.13	765.4	33.4	0.8	84	NE	.....	.....	2	.....	10	N	.....	0.003	0.08	.....	Imp. University Observatory.
Stuttgart	29.11	739.4	30.04	763.0	31.6	— 0.2	100	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.53	724.6	30.11	764.9	30.0	— 1.1	88	N	2	1	.....	.....	10	.....	N	0.008	0.2	Foggy	Dr. Van Bebber.
Wustrow, Naval School	30.28	769.1	30.30	769.7	19.6	— 6.9	92	E	.....	.....	2	.....	0	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.69	754.2	30.09	764.3	54.7	12.6	.....	SE	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Light rain	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.94	760.4	29.99	761.7	76.5	24.7	54	WNW	23	10.3	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.54	760.8	30.02	762.4	77.2	25.1	29	W	6.0	2.7	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.94	760.6	29.98	761.5	77.9	25.5	65	NNW	23	10.3	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.96	710.1	29.96	760.9	81.2	27.3	.....	NE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.26	743.3	30.03	762.7	68.7	20.4	31	W	2	0.9	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.44	697.1	29.97	761.3	80.0	26.7	36	Calm	.....	.....	.....	.....	1	.....	.....	0	0	D. clouds	
Roorkee	29.03	737.3	29.95	760.7	69.4	20.8	18	NW	8	3.6	.....	.....	.....	.....	.....	0	0	.....	
Agra	29.44	747.8	30.02	762.6	71.7	22.1	62	N	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.95	735.4	30.00	761.9	83.1	28.4	22	Calm	2.4	1.1	.....	.....	.....	.....	.....	0	0	Blue sky	
Lucknow	29.58	751.4	29.97	761.2	70.3	21.3	44	NW	3.4	1.5	.....	.....	.....	.....	.....	0	0	Blue sky	
Allahabad	29.68	753.8	30.00	761.9	70.9	21.6	38	NW	4.0	1.8	.....	.....	0	.....	.....	0	0	Blue sky	
Patna	29.78	756.3	29.96	761.0	78.3	25.7	29	W	3.6	1.6	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.95	709.9	30.01	762.3	67.0	19.4	21	W	12.2	5.4	.....	.....	0	.....	.....	0	0	Blue sky	
Cuttack	29.92	760.0	30.01	762.2	75.8	24.3	43	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.98	761.5	30.00	762.1	67.6	19.8	56	NW	3.6	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.56	750.9	29.96	761.1	70.0	21.1	37	SSE	4.1	1.8	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.92	760.1	30.02	762.5	70.8	21.6	79	WSW	4.1	1.8	.....	.....	0	.....	.....	0	0	Misty	
Sibsagar	29.67	753.6	30.02	762.4	64.1	17.8	71	ENE	1.5	0.7	.....	.....	0	.....	.....	0	0	Blue sky	
Jubbulpore	28.64	727.5	30.03	762.7	76.2	24.6	26	Calm	1.4	0.6	.....	.....	0	.....	.....	0	0	Blue sky	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal: the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.3 meters: Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,551 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.5	30.09	764.2	41.4	5.2	69	E	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.96	760.9	30.07	763.7	43.7	6.5	78	SE	0.7	0.3	.....	.....	9	N	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.52	749.9	30.07	763.6	38.1	3.4	91	WSW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.15	740.5	30.09	764.2	34.5	1.4	93	WSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.10	713.8	30.05	763.3	37.9	3.3	66	NNW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.86	758.5	30.06	763.5	50.0	10.0	84	SE	7.4	3.3	.....	.....	10	S	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Florence	29.83	757.7	30.09	764.3	50.0	10.0	78	N	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.95	760.8	30.04	763.0	50.5	10.3	83	S	2.5	1.1	.....	.....	10	S	.....	0.075	1.9	.....	Prof. P. Monte.
Pesaro	30.03	762.7	30.08	764.0	45.1	7.3	84	N	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.93	760.3	30.11	764.8	51.4	10.8	70	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.84	757.8	30.10	764.4	56.5	13.6	71	N	1.8	0.8	.....	.....	4	.....	.....	0.008	0.2	.....	Prof. C. De Giorgi.
Cagliari	29.87	758.8	30.07	763.7	57.7	14.3	64	S	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. A. Facinotti.
Cosenza	29.24	742.6	30.13	765.4	53.6	12.0	74	NW	4.9	2.2	.....	.....	7	.....	.....	0.059	1.5	.....	Prof. D. Conti.
Palermo	29.92	760.0	30.18	766.5	55.6	13.1	61	NE	1.3	0.6	.....	.....	9	NE	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.08	764.1	30.16	766.0	56.3	13.5	67	Calm	0	0	.....	.....	2	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.59	751.5	30.14	765.6	53.1	11.7	66	NW	7.4	3.3	.....	.....	3	.....	.....	0.043	1.1	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.39	771.9	30.41	772.4	35.6	2.0	83	NE	5.2	2.3	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.17	766.3	30.38	771.6	36.2	2.3	88	NE	0.7	0.3	.....	.....	0	.....	.....	0	0	Very clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.30	769.6	30.38	771.6	32.0	0.0	72	ESE	5.4	2.4	.....	1ck	0	W	.....	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	6cs	0	SW	.....	0	0	.....	P. Ceballos.
Guadalajara	25.04	636.2	30.17	766.2	48.2	9.0	52	Calm	.....	.....	0	6cs	0	SW	.....	0	0	½ clouded	Prof. L. Perez.
Leon	24.44	621.0	30.09	764.3	55.0	12.8	70	E	.....	.....	3	5c	0	NW	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.09	586.5	30.27	768.8	43.7	6.5	69	N	7.2	3.2	.....	0	0	.....	.....	0	0	Clear	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	53.8	12.1	70	NNW	.....	.....	1	4cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.99	761.7	30.00	762.0	70.2	21.2	90	NW	.....	.....	1	5	0	NE	.....	0	0	½ clouded	M. M. Cházaro.
San Luis Potosi	24.25	615.9	30.23	767.8	54.0	12.2	71	E	.....	.....	.....	.....	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.05	763.2	30.08	763.9	73.4	23.0	86	NW	0	0	.....	.....	6sk	.....	N	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.37	593.5	30.12	765.0	41.0	5.0	57	NNE	2.7	1.2	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.5	30.07	763.8	72.5	22.5	72	NE	.....	.....	2	.....	7	.....	SW	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	29.89	759.3	30.03	762.7	71.6	21.9	.....	NE	.....	.....	1	5c	4k	.....	.....	0	0	Cloudy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.29	769.3	30.29	769.3	30.2	— 1.0	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	30.17	766.2	30.22	767.6	23.4	— 4.8	.....	E	.....	.....	2	.....	.....	.....	.....	0.035	0.9	.....	
Helder	30.18	766.5	30.18	766.5	25.2	— 3.8	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.15	765.9	30.15	765.9	23.7	— 4.6	100	E	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.13	765.3	30.18	766.5	25.7	— 3.5	76	ESE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.16	766.1	30.22	767.5	54.5	1.4	93	SSE	3.1	1.4	.....	.....	10	.....	.....	0.16	4.	Light snow..	
Brönö	30.04	763.1	30.08	764.1	26.6	— 3.0	78	Calm	0	0	.....	.....	8	.....	.....	0	0	....	
Christiania	30.02	762.6	30.18	766.6	29.1	— 1.6	92	SSW	7	3	.....	.....	10	.....	.....	0.181	4.6	Light snow..	
Tromsö	29.87	758.6	29.91	759.7	23.0	— 5.0	76	SW	11	5	.....	.....	10	.....	.....	0.268	6.8	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.68	753.8	29.87	758.7	61.5	16.4	85	WSW	14.3	6.4	.....	.....	7	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.7	30.13	765.3	50.2	10.5	97	Calm	0	0	.....	.....	10	.....	.....	0.551	14.0	Dense haze..	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.11	764.8	30.20	767.0	67.6	19.8	71	SSW	6.9	3.1	.....	.....	3	.....	.....	0.063	1.6	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	755.0	30.09	764.2	58.5	14.7	94	SW	11.2	5.0	.....	.....	8	WSW	.....	0.760	19.3	....	The Staff.
Ponta Delgada, (Azores)	29.91	759.6	29.98	761.4	66 0	17.2	92	SW	20.6	9.2	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinto, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.90	759.4	83.3	28.5	.....	W	.....	.....	2	.....	4	.....	W	2	W	D. clouds.....	A. J. de Mattos, Com'd' t.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, N. 11° 51′, W. 15° 37′	.....	.....	30.03	762.7	80.8	27.1	.....	SSE	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.83	757.7	83.5	28.6	.....	NNW	.....	.....	2	.....	9	.....	.....	1	.....	D. clouds.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.26	768.5	59.9	15.5	.....	N	.....	.....	3	.....	3	.....	N	0	.....	D. clouds.....	M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.78	756.5	30.25	768.3	10.6	—11.9	78	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.78	756.5	30.24	768.2	14.7	— 9.6	88	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	30.00	762.0	30.27	768.9	9.7	—12.4	77	WSW	4	2	.....	.....	5ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.20	767.1	30.22	767.5	18.1	— 7.7	92	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.54	750.4	30.24	768 0	17.4	— 8.1	94	SE	9	4	.....	.....	10n	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Nikolaiev	30.21	767.3	30.28	769.1	28.8	— 1.8	84	ESE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.35	770.9	30.37	771.4	36.7	2.6	80	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.76	755.9	30.57	771.5	5.0	—15.0	82	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.17	766.2	30.39	771.9	11.3	11.5	68	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.96	761.0	29.98	761.5	17.2	— 8.2	61	WNW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.	Capt Sselliwerstow.
Tiflis	29.07	738.3	30.60	777.3	26.0	— 3.9	87	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.63	778.0	30.55	775.9	23.4	— 4.8	39	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	29.81	757.2	30.33	770.3	14.4	— 9.8	46	WSW	2	1	.....	.....	1s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.89	759.2	30.19	766.7	9.1	—12.7	80	W	9	4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Physical Cabinet.
Ekaterinburg	28.95	735.3	29.98	761.6	13.1	—10.5	75	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tashkend	28.71	729.2	30.53	775.5	29.8	— 1.2	94	W	18	8	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.43	747.6	29.97	761.2	13.1	—10.5	85	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.18	741.1	29.48	748.9	14.4	— 9.8	84	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.21	767.2	30.35	770 8	23.0	— 5.0	62	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 58° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.91	759.8	30.02	762.6	54 3	12.4	67	WSW	2.2	0.97	.....	.....	1	.....	.....	0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.3	29.95	760.7	65.5	18 6	55	S	4.0	1.79	.....	2	3	W	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.7	.....	.....	45.3	7.4	91	S	7.6	3.42	.....	.....	9	.....	.....	0	0	Almost cov..	Domingo Martin y Perez.
Madrid, Royal Observatory	27.88	708.2	.....	.....	45.0	7.2	88	NE	0.7	0.33	.....	0	10	.....	.....	0.008	0.2	Raining.....	The Staff.
Murcia, Met. Obs'y	29.94	760.5	30.09	764.3	63.0	17.2	63	SE	2.5	1.11	.....	1	2	NW	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.03	737.3	29.93	760.1	53.6	12.0	86	SW	7.4	3.3	.....	.....	6	.....	.....	0.909	23.1	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manilla, Philippine Islands	29.92	760.0	29.98	761.4	80.6	27.0	74	NE	2.7	1.2	.....	k	.....	E	.....	0	0	.....	Benito Vines, S. J.
San Fernando, Naval Obs'y	30.07	763.9	30.17	766.4	60.1	15.6	82	S	5.2	2.3	.....	0	10	.....	S	0	0	Covered.....	Federico Faura, S. J.
San Juan de Porto Rico, W. I.	29.94	760.4	30.03	762 7	67.6	19.8	89	W	0	0	.....	3k	0	.....	.....	0	0	Clear.....	Capt. C. Fulazon, R. N. Dir. Leonardo de Tejada, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Haparanda	30.10	764.6	30.14	765.6	3.2	—16.0	.....	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Umea	30.12	765.1	30.17	766.4	11.1	—11.6	100	Calm	.....	.....	0	.....	10	.....	.....	0.051	1.3	.....	
Hernosand	30.11	744.8	30.16	766.1	18.7	— 7.4	95	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	30.01	762.2	30.19	766.7	28.0	— 5.0	95	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Wisby	30.13	765.4	30.19	766.9	24.4	— 4.2	81	WNW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.08	764.0	30.15	765.9	27.1	— 2.7	94	SW	0	0	.....	.....	10	.....	W	0.029	0.72	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	726.9	30.11	764.8	32.4	0.2	87	S	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.42	721.8	30.14	765.6	30.2	— 1.0	95	W	.....	.....	2	.....	7	.....	.....	0	0	Foggy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.2 mm.; Thermometer, —2.2 ent.; Relative Humidity, +12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.18	776.6	51.6	10.9	60	NNE	7	3.0	.....	.....	3	.....	SW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	30.11	764.8	53.2	11.8	.....	NW	.....	.....	1	.....	10	.....	.....	0.28	7.	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.97	761.2	30.09	764.3	63.5	17.5	44	NE	.....	.....	1	.....	10cs	.....	.....	0	0	Overcast.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.19	741.4	29.26	743.2	29.2	— 1.6	93	Calm	0	0	.....	.....	10n	.....	.....	0.46	11.7	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.43	747.5	29.76	755.9	9	—12.8	.....	NW	5	2.2	.....	.....	8s	.....	NW	Inap.	Inap.	Light snow.	W. R. Bigg.
*Chatham, N B	29.20	741.7	29.27	743.4	19	— 7.2	92	W	1	0.4	.....	.....	10n	.....	Calm	0.04	1.0	Light snow.	G. A. Blair.
Charlottetown, P. E. Island	29.17	740.9	29.22	742.2	13	—10.6	95	W	5	2.2	.....	.....	10n	.....	Calm	0.050	1.27	Light snow.	H. J. Cundall, C. E.
Cornwall, Ontario	29.48	748.8	29.69	754.1	8.0	—13.3	100	NW	.....	.....	2	.....	10s	.....	.....	0.13	3.3	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.39	746.5	29.41	747.0	15	— 9.4	82	SW	15	6.7	.....	.....	10n	.....	Calm	0.05	1.3	Light snow.	J. McWilliams.
Fredericton, N. B	29.31	744.5	29.38	746.2	11.9	—11.2	82	NW	15	6.7	.....	.....	10n	.....	.....	0.17	4.3	Snowing.....	Prof. Harrison.
*Fort Garry Manitoba	29.56	750.8	30.48	774.2	6	—14.4	100	SE	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.81	731.8	30.00	762.0	14	—10.0	.....	N	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Overcast.....	James Grant.
*Halifax, N. S	29.75	740.	29.29	744.0	17	— 8.3	90	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.	F. Allison, M. A.
Hamilton, Ontario	29.63	752.6	30.03	762.8	15.3	— 9.3	84	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.41	747.6	29.77	756.1	11	—11.7	82	NW	7	3.1	.....	8k	0	NW	.....	Inap.	Inap.	Fair	S. Woods, M. A.
Little Glace Bay, N. S	28.99	736.3	29.03	737.3	18.7	— 7.4	92	NW	8	3.6	.....	8k	0	NW	.....	0.65	1.3	Snow-squalls	C. H. Rigby.
Moose Factory, Ontario	30.12	765.0	30.15	766.8	— 7.9	—22.2	84	NW	.....	.....	4	.....	10n	.....	.....	Inap.	Inap.	Snowing.....	J. R. Nason.
*Montreal, Quebec	29.44	747.8	29.65	753.1	8	—13.3	67	N	22	9.8	.....	0	2s	.....	.....	0.08	2.0	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	30.01	762.2	— 1	—18.3	63	W	11	4.9	.....	2cs	0	W	.....	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.06	738.1	29.89	759.2	4.8	—15.1	65	NW	.....	.....	.....	0	1s	.....	.....	.....	.....	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.21	741.9	29.96	761.0	15	— 9.4	82	N	13	5.8	.....	10k	0	NW	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.13	739.9	29.18	741.2	13.9	—10.1	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.30	744 2	29.99	761.7	16	— 8.9	86	NW	10	4.5	.....	0	2ks	.....	NW	0.16	4.1	Clear.	M. Payne.
*Quebec, Quebec	29.21	741.9	29.56	750.8	4	—15.6	60	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.30	745.7	29.87	758.7	3	—16.1	73	NW	15	6.7	.....	.....	10n	.....	.....	0	0	Hazy.....	W. H. McIntyre.
St. Andrews, N. B	29.34	745.2	29.39	746.5	12	—11.1	84	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	Dr. Gove.
St. John, N. B	29.19	741.4	29.36	745.7	12	—11.1	80	NW	13	5.8	.....	0	8c	.....	.....	0.14	3.6	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.28	743.7	30.05	763.3	12	—11.1	83	N	22	9.8	.....	.....	10ks	.....	.....	0.05	1.3	Cloudy.....	K. Stewart.
Stayner, Ontario	29.13	739.9	29.98	761.5	10	—12.2	87	N	21	9.4	.....	.....	10n	.....	NW	0.03	0.8	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.63	727.2	30.02	762.5	11.1	—11.6	90	NW	17	7.6	.....	c	4s	.....	NW	Inap.	Inap.	Fine	C. J. MacGregor, M. A.
*Sydney, C. B	29.07	738.4	29.11	739.4	18	— 7.8	89	SW	12	5.4	.....	.....	10n	.....	.....	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.51	749.5	29.93	760.2	11	—11.7	82	NW	23	10.3	.....	0	2ks	.....	Calm	0.01	0.3	Clear.....	Magnetic Observatory.
Windsor, N. S	29.30	744.2	29.40	746.7	12.0	—11.1	.....	.....	.....	.....	.....	4cs	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	100	SW	.....	.....	.....	.....	10	.....	.....	0.62	15.7	Overcast.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.42	747.2	29.66	753.4	18	— 7.8	68	NW	16	7.2	.....	0	6	.....	.....	0.01	0.3	Clear	
Alpena, Michigan	29.48	748.8	30.19	766.5	12	—11.1	80	NW	16	7.2	.....	.....	10s	.....	N	0.08	2.0	Cloudy	
Atlanta, Georgia	28.83	732.5	30.46	782.0	38	3.3	54	NW	20	8.9	.....	0	Sm'e	.....	Calm	0.70	17.8	Clear	
Atlantic City, New Jersey	29.74	755.4	29.76	755.9	27	— 2.8	64	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.75	755.6	29.92	760.0	50	10.0	79	NE	4	1.8	.....	.....	10s	.....	NW	0.63	16.0	Cloudy	
Baltimore, Maryland	29.80	756.9	29.85	758.2	32	0.0	59	NW	5	2.2	.....	2k	2s	NW	NW	0	0	Fair	
Barnegat, New Jersey	29.69	754.1	29.71	754.6	27	— 2.8	64	NW	19	8.5	.....	2k	0	Calm	.....	0	0	Clear	
Bismarck, Dakota	28.35	721.1	30.25	768.3	12	—11.1	100	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.84	732.5	30.22	767.6	41	5.0	74	N	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.59	700.8	30.55	776.0	15	— 9.4	73	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.41	747.0	29.57	751.1	22	— 5.6	72	NW	9	4.0	.....	0	5s	.....	NW	0	0	Fair	
Brackettville, Texas	29.29	744.0	30.36	771.1	45	7.2	61	N	10	4.5	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Breckenridge, Minnesota	29.46	748.3	30.61	777.5	— 2	—18.9	100	S	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Brownsville, Texas	30.11	764.8	30.18	766.9	60	15.6	94	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Buffalo, New York	29.14	740.1	29.88	758.9	16	— 8.9	83	NW	14	6.3	.....	2k	0	NW	.....	0.15	3.8	Fair	
Burkes, Arizona	.....	.....	.....	.....	41	5.0	25	E	.....	.....	1	5c	0	N	.....	0	0	Fair	
Burlington, Vermont	29.34	745.2	29.65	753.1	14	—10.0	72	N	16	7.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Cairo, Illinois	29.96	761.0	30.38	771.6	32	0.0	59	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	29.18	659.6	29.98	761.5	40	4.4	26	NE	25	11.2	.....	5cs	0	E	.....	0	0	Fair	
Camp Verde, Arizona	.....	.....	.....	.....	26	— 3.3	52	N	.....	.....	1	0	0	.....	.....	0	0	Fair	
Campo, California	27.41	696.2	29.98	761.5	40	4.4	83	E	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.82	757.4	29.83	757.7	37	2.8	71	NE	22	9.8	.....	.....	10s	.....	N	0.16	4.1	Cloudy	
Cape Henry, Virginia	29.85	758.2	29.87	758.7	34	1.1	61	NW	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.82	757.4	29.83	757.7	39	3.9	64	NE	30	13.4	.....	8ek	0	W	.....	0.20	5.1	Cloudy	
Cape May, New Jersey	29.74	755.4	29.78	756.4	29	— 1.7	59	NW	28	12.5	.....	1cs	0	W	.....	0	0	Clear	
Castroville, Texas	29.53	750.0	30.27	768.8	45	7.2	68	NW	16	7.2	.....	8ck	0	W	.....	0	0	Cloudy	
Charleston, South Carolina	29.85	758.2	29.91	759.7	49	9.4	70	NE	8	3.6	.....	.....	10ks	.....	NE	0.44	11.2	Cloudy	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	8	—13.3	78	NW	4	1.8	.....	0	0	.....	.....	0.62	0.5	Clear	
Chicago, Illinois	29.58	751.3	30.34	770.6	19	— 7.2	85	NW	12	5.4	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Cincinnati, Ohio	29.48	748.8	30.17	766.3	28	— 2.2	77	N	17	7.6	.....	.....	10n	.....	N	0.01	0.3	Light snow	
Cleveland, Ohio	29.26	743.2	30.03	762.8	20	— 6.7	70	NW	26	11.6	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Coleman City, Texas	28.62	726.9	30.39	771.9	35	1.7	70	N	26	11.6	.....	.....	10ks	.....	N	0	0	Cloudy	
Columbus, Ohio	29.29	741.7	30.10	764.5	22	— 5.6	68	NW	11	4.9	.....	0	2s	.....	NW	0	0	Clear	
Corpus Christi, Texas	28.45	722.6	30.20	767.1	35	1.7	61	NW	16	7.2	.....	10k	0	NW	.....	0	0	Cloudy	
Corsicana, Texas	29.90	759.4	30.40	772.1	41	5.0	65	NW	16	7.2	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Davenport, Iowa	29.75	755.6	30.45	773.4	20	— 6.7	70	N	17	7.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Deadwood, Dakota	25.48	647.2	.....	.....	15	— 9.4	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.24	742.7	30.49	774.4	33	0.6	89	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Denison, Texas	29.63	752.6	30.48	774.2	34	1.1	79	NW	9	4.0	.....	2c	2s	NW	Calm	0	0	Fair	
Denver, Colorado	24.99	634.7	30.21	767.3	7	—13.9	77	S	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Des Moines, Iowa	29.59	751.6	30.57	776.5	16	— 8.9	83	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.36	745.7	30.08	764.0	19	— 7.2	85	NW	14	6.3	.....	8k	2s	W	W	Inap.	Inap.	Cloudy	
Dodge City, Kansas	27.86	707.6	30.36	771.1	22	— 5.6	86	N	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Dubuque, Iowa	29.69	754.1	30.46	773.7	20	— 6.7	70	N	6	2.7	.....	5k	0	N	.....	0	0	Fair	
Duluth, Minnesota	29.51	757.2	30.58	776.7	— 3	—16.1	73	NW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Eagle Pass, Texas	29.52	749.8	30.29	769.4	51	10.6	59	N	.....	.....	4	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Eastport, Maine	29.84	745.2	29.41	747.0	12	—11.1	61	NW	13	5.8	.....	0	2s	.....	Calm	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	50	10.0	100	N	.....	.....	6	.....	10n	.....	.....	Inap.	Inap.	Light rain	
El Paso, Texas	26.41	670.8	.....	.....	55	12.8	38	SE	6	2.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Erie, Pennsylvania	29.16	740.7	29.91	759.7	22	— 5.6	86	NW	14	6.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Escanaba, Michigan	29.65	753.1	30.37	771.4	13	—10.9	81	NW	14	6.3	.....	.....	10s	.....	NW	Inap	Inap.	Cloudy	
Florence, Arizona	28.53	724.6	30.13	765.3	39	3.9	25	E	.....	.....	4	8cs	0	SW	.....	0	0	Fair	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	28.71	653.0	29.77	756.1	31	— 0.6	79	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.46	646.7	30.42	772.6	29	— 1.7	89	NE	8	3.6	.....	.....	10n	.....	NE	0.10	2.5	Light snow	
Fort Gibson, Indian Ter.	29.90	759.4	30.45	774.2	31	— 0.6	79	N	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	
Fort Grimn, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Keogh, Montana	27.59	700.8	.....	.....	14	—10.0	64	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.14	714.7	30.19	766.8	36	2.2	61	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.25	742.9	30.45	773.4	30	— 1.1	89	N	14	6.3	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.33	719.6	.....	.....	16	— 8.9	83	SE	.....	.....	4	2c	0	Calm	.....	0	0	Fair	
Fredericksburg, Texas	28.58	726.9	30.22	767.6	41	5.0	74	N	10	4.5	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.16	766.1	30.21	767.3	56	13.3	69	N	26	11.6	.....	8k	4	N	.....	0	0	Cloudy	
Graham, Texas	29.37	746.0	30.49	774.4	33	0.6	89	N	12	5.4	.....	10k	0	NW	.....	0	0	Cloudy	
Grand Haven, Michigan	29.58	750.6	30.24	767.8	20	— 6.7	70	N	16	7.2	.....	0	2s	.....	N	0	0	Fair	
Indianapolis, Indiana	29.38	746.2	30.20	767.3	27	— 2.8	64	NW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Indianola, Texas	29.22	742.2	30.24	768.1	54	12.2	74	N	34	15.2	.....	.....	10s	.....	N	0.15	3.8	Cloudy	
Jacksboro, Texas	29.29	744.0	30.51	774.9	33	0.6	79	N	12	5.4	.....	8ck	0	W	.....	0	0	Fair	
Jacksonville, Florida	29.81	757.3	29.89	758.4	65	18.3	84	SW	6	2.7	.....	.....	10n	.....	W	0.02	0.5	Light rain	
Keokuk, Iowa	29.78	756.4	30.46	773.7	20	— 6.7	77	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.01	762.2	30.04	763.0	68	18.9	89	W	3	1.3	.....	1k	Fog	Calm	Calm	0	0	Clear	
Kittyhawk North Carolina	29.78	756.4	29.81	757.2	36	2.2	61	N	30	16.1	.....	8cs	0	N	.....	0	0	Fair	
Knoxville, Tennessee	29.03	737.3	30.07	763.8	33	0.6	89	N	8	3.6	.....	Haze	2ks	.....	NW	0	0	Fair	
La Crosse, Wisconsin	29.69	754.1	30.51	774.9	13	—10.6	81	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	31	— 0.6	69	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Laredo, Texas	29.87	758.7	30.22	767.6	57	13.9	62	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.61	752.1	30.53	775.4	23	— 5.0	73	N	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.67	753.6	30.02	762.5	42.6	5.7	76	NE	2	4.0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.60	751.8	30.19	766.8	28	— 2.2	66	NW	12	5.4	.....	0	2s(sm	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.[illegible]	741.7	29.90	759.4	35	1.7	70	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.56	745.7	30.44	773.2	15	— 9.4	65	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.61	752.1	30.38	771.6	15	— 9.4	82	NW	18	7.2	.....	.....	10n	.....	Calm	0.24	6.1	Light snow	
Mason, Texas	28.74	730.0	30.40	772.3	39	3.9	64	N	16	7.2	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Memphis, Tennessee	30.01	762.2	30.35	770.6	35	1.7	61	N	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.60	751.8	30.40	772.1	15	— 9.4	82	N	15	6.7	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Mobile, Alabama	30.05	763.3	30.10	764.5	63.5	11.9	73	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Montgomery, Alabama	29.86	758.4	30.11	764.8	47	8.3	69	N	12	5.4	.....	1c	0	NW	.....	0.47	11.9	Clear	
Morgantown, West Virginia	28.82	732.0	29.92	760.0	25	— 3.9	87	NW	10	4.5	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow	
Mt. Washington, N. H.	22.90	581.6	29.26	743.2	— 6	—21.1	100	NW	36	16.1	.....	.....	Fog	.....	NW	0.33	8.4	Foggy	
Nashville, Tennessee	29.68	753.9	30.25	768.3	32	0.0	65	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
New Haven, Connecticut	29.53	750.0	29.65	753.1	27	— 2.8	76	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.57	751.1	29.62	752.3	27	— 2.8	75	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.05	763.3	30.11	764.8	57	13.9	63	N	18	8.0	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Newport, Rhode Island	29.54	750.3	29.69	754.8	27	— 2.8	76	W	14	6.3	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.53	750.0	29.72	754.9	28	— 2.2	76	W	18	8.0	.....	2k	1s	W	Calm	0	0	Fair	
Norfolk, Virginia	29.76	755.9	29.82	757.4	34	1.1	79	N	14	6.3	.....	5k	0	Calm	.....	Inap.	Inap.	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10)	Clouds. Amount. Up'er (0—10)	Clouds. Amount. Low'r (0—10)	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.49	698.2	30.48	772.9	0	—17.8	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Olympia, Washington Ter.	30.34	770.6	30.38	771.6	28.0	— 2.2	88	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	29.37	746.0	30.60	777.2	15	— 9.4	82	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.45	748.0	29.78	756.4	21	— 6.1	86	NW	13	5.8	.....	.....	10s	.....	.....	0	0	Clear	
Pembina, Dakota	29.56	750.8	30.49	774.4	2	—16.7	100	SE	8	3.6	.....	0	8s	.....	NW	Inap.	Inap.	Cloudy	
Philadelphia, Pa	29.73	755.1	29.78	756.4	29	— 1.7	78	NW	11	4.9	.....	0	Haze	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.90	734.0	30.79	782.0	35	3.3	63	Calm	.....	.....	.....	0	0	.....	Calm	0	0	Clear	
Pike's Peak, Colorado	17.70	449.6	29.91	759.7	— 2	—18.9	35	NW	32	14.3	.....	0	1s	.....	.....	0	0	Clear	
Pioche, Nevada	24.21	614.9	29.98	761.5	17	— 8.3	83	NW	12	5.4	.....	0	0	.....	Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.08	738.6	29.98	760.2	28	— 5.0	86	NW	16	7.2	.....	.....	10n	.....	.....	0	0	Clear	
Port Huron, Michigan	29.34	745.2	30.05	763.3	15	— 9.4	82	NW	20	8.9	.....	5k	0	.....	NW	Inap.	Inap.	Light snow	
Portland, Maine	29.47	748.5	29.52	749.8	19	— 7.2	69	NW	2	0.9	.....	2k	Haze	W	.....	0.03	0.8	Fair	
Portland, Oregon	30.36	771.1	30.46	773.7	33.0	0.6	79	N	3	1.3	.....	0	0	Calm	.....	0	0	Fair	
Prescott, Arizona	24.81	630.2	30.17	766.3	22	— 5.6	58	NE	5	2.2	.....	2k	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.06	738.1	29.88	759.2	50	10.0	86	SE	15	6.7	.....	0	0	Calm	.....	0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.01	762.3	66	18.9	89	W	18	8.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Red Bluff, California	29.86	758.4	30.23	767.8	42	5.6	50	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.07	763.8	30.29	769.4	56	13.3	93	N	5	2.2	.....	.....	10n	.....	.....	0	0	Clear	
Rochester, New York	29.15	740.4	29.80	756.9	18	— 7.8	84	NW	17	7.6	.....	.....	10n	.....	N	1.66	42.2	Light rain	
Roseburg, Oregon	29.84	757.9	30.46	773.7	29.0	— 1.7	100	NW	1	0.4	.....	.....	Fog	.....	Calm	9.12	3.0	Light snow	
Sacramento, California	30.01	762.6	30.13	765.3	39	3.9	73	N	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
St. Louis, Missouri	29.79	756.7	30.41	772.4	26	— 3.3	75	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.91	759.7	29.93	760.2	63	17.2	89	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.62	752.3	30.55	776.0	12	—11.1	80	NW	6	2.7	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.97	659.6	30.30	769.6	25	— 3.9	62	E	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
San Antonio, Texas	29.60	751.8	30.21	767.5	47	8.3	62	N	14	6.3	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
San Diego, California	29.96	761.0	30.02	762.8	44.8	7.1	93	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Sandusky, Ohio	29.38	746.2	30.10	764.5	21	— 6.1	86	NW	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.68	753.9	29.71	754.6	29	— 1.7	56	W	24	10.7	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
San Francisco, California	30.07	763.8	30.13	765.3	47.3	8.5	59	N	8	3.6	.....	1s	0	W	.....	0	0	Clear	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	21	— 6.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.78	756.4	29.88	758.9	51	10.6	98	N	10	4.5	.....	0	2s	.....	Calm	0	0	Fair	
Shreveport, Louisiana	30.12	765.0	30.35	770.9	44	6.7	76	NE	6	2.7	.....	.....	10s	.....	N	0.13	3.3	Cloudy	
Silver City, New Mexico	24.39	619.5	30.74	780.8	35	1.7	70	SW	4	1.8	.....	0	4s	.....	Calm	0.01	0.3	Fair	
Smithville, North Carolina	29.84	757.9	29.88	758.9	42	5.6	83	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.56	749.3	29.63	752.6	24	— 4.4	61	W	11	4.9	.....	.....	10s	.....	W	0.41	10.4	Cloudy	
Stockton, Texas	27.33	694.2	30.33	770.4	55	13.7	80	NW	16	7.2	.....	5k	0	NW	.....	0	0	Fair	
Thatcher's Island, Mass.	29.57	751.1	29.88	752.6	33	— 0.1	60	NW	24	10.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Toledo, Ohio	29.36	745.7	30.08	764.0	23	— 5.0	86	NW	16	7.2	.....	8k	0	NW	.....	0	0	Fair	
Tucson, Arizona	.....	.....	.....	.....	41	5.0	56	S	3	1.3	.....	0	0	NW	.....	0	0	Cloudy	
Tybee Island, Georgia	29.85	758.2	29.88	758.9	59	10.6	100	NE	21	9.4	.....	.....	10n	.....	.....	0	0	Clear	
Umatilla, Oregon	30.16	766.1	30.70	779.8	24.0	— 4.4	87	W	4	1.8	.....	.....	10s	.....	NE	0.22	5.6	Light rain	
Unalashka, Aleutian Islands	.....	.....	.....	.....	33	0.6	100	SE	.....	.....	.....	.....	10s	.....	Calm	0	0	Cloudy	
Uvalde, Texas	29.44	747.8	30.30	769.6	45	7.2	61	N	10	4.5	.....	4	10s	.....	SW	0	0	Cloudy	
Vicksburg, Mississippi	30.03	762.8	30.30	769.6	43	6.1	75	N	9	4.0	.....	.....	10s	.....	N	0	0	Cloudy	
Virginia City, Montana	24.41	620.0	29.89	759.2	7	—13.9	77	Calm	0	0	.....	0	1s	.....	Calm	0.49	12.4	Clear	
Visalia, California	29.75	755.6	30.14	765.5	36.5	2.5	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.74	755.4	29.86	758.4	30	— 1.1	78	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	39	3.9	64	W	.....	.....	.....	5ck	0	W	.....	0	0	Fair	
Wilmington, N. Carolina	29.77	756.1	29.85	758.2	41	5.0	78	NW	9	4.0	.....	5c	0	SW	.....	0	0	Fair	
Winnemucca, Nevada	25.93	658.6	30.29	769.4	18	— 7.8	68	E	10	4.5	.....	5k	0	NW	Calm	0.19	4.8	Cloudy	
Wood's Holl, Mass.	29.51	749.5	29.55	750.6	26	— 3.3	88	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	29.24	742.7	29.70	770.8	9	—12.8	67	Calm	0	0	.....	0	2ks	.....	NW	0	0	Clear	
Yuma, Arizona	29.87	758.7	30.04	763.0	51	10.6	59	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark.	28 79	731.3	30.32	770.1	25	— 3.9	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba, W. I.	30.01	762.2	30.06	763.5	71	21.7	75	Calm	0	0	.....	0	8ks	.....	SE	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Columbia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.92	760.0	30.00	762.0	76	24.4	.....	NE	6.2	2.8	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	29.97	761.2	29.97	761.2	82	27.8	88	E	.....	.....	2	3c	5k	E	.....	0.070	1.78	Fair	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.91	759.7	29.97	761.2	—28.0	—33.3	.....	W	2	0.9	.....	.....	10m	.....	.....	0.66	1.5	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,121.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,332 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Bracketville, 1,028 (?) ft., or 312.7 (?) m.; Camp Grant, 4,853 (?) ft., or 1,479.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 3,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 536.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 365.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m.; Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,000 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Gralam, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,816 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,000 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Pioche, 5,775.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,396 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.6 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.664 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.91 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.40 in.; Tucson, 2.59 in.; Wickenburg, 2.46 in.; Winnemucca, 4.36 in.; Virginia City, 5.45 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.06	763.5	40	4.4	43	6.1	60	NW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	58	14.4	76	NW	10	4.5	.....	.....	8	.....	N	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.50	749.3	54	12.2	19	— 7.2	84	WNW	3	1.3	.....	.....	8	.....	.....	.....	.....	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	*30.32‡	770.1‡	.....	.....	34.5	1.4	71	NW	.....	.....	1	.....	1ck	.....	SW	0	0	.....	.....	Fair	
Adams, Callao, Peru	29.90	759.4	70	21.1	68	20.0	95	S	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Alaska, N 15° 46′, W. 95° 52′	30.05	763.3	79	26.1	77	25.0	86	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Alliance, Smyrna, Turkey	30.13‡	765.3‡	.....	.....	56	13.3	51	ENE	.....	.....	0–1	.....	10	.....	Calm	.....	.....	.....	.....	Misty	
Ashuelot, N. 15° 23′, E. 108° 59′	30.09‡	764.3‡	.....	.....	71	21.7	95	NW	.....	.....	5	.....	5	.....	N	.....	.....	Mod'ate	NNE	Fair	
Canonicus, New Orleans, La.	30.10	764.5	43	6.1	54	12.2	93	NNW	.....	.....	4	.....	10	.....	NNW	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	29.65	753.1	28	— 2.2	28	— 2.2	100	WSW	12	5.4	.....	.....	2	.....	NW	0	0	.....	.....	Hazy	
Constitution, N 48° 42′, W. 8° 42′	29.54‡	750.3‡	.....	.....	52	11.1	100	SSW	.....	.....	6	.....	8	.....	SW	.....	.....	Mod'ate	SW	Cloudy	
Despatch, Constantinople, Turkey	30.29‡	769.4‡	.....	.....	54	12.2	80	NNW	.....	.....	2	.....	2	.....	NNW	.....	.....	.....	.....	Clear	
Essex, Stanley, Falkland Isl'ds	29.41	747.0	63	17.2	63	17.2	28	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	29.97	761.2	73	22.8	34	1.1	62	NW	18.5	8.3	.....	.....	8	.....	WNW	0	0	.....	.....	Fair	
Gettysburg, Genoa, Italy	29.34‡	745.2‡	.....	.....	56	13.3	94	S	.....	.....	2	.....	10	.....	S	Blank	Blank	.....	.....	Cloudy	
Hartford, Montevideo, Uruguay	30.02	762.5	73	22.8	75	23.9	56	NNW	10.8	4.8	.....	.....	8	.....	NNW	0	0	Smooth	.....	Cloudy	
Lackawana, Panama	*29.68‡	753.9‡	.....	.....	76	24.4	95	NNW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Fair	
Michigan, Erie, Pa.	29.95†	760.7†	.....	.....	19	— 7.2	84	NNW	.....	.....	5	.....	10	.....	NNW	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China	*30.48‡	774.2‡	.....	.....	37	2.8	81	SE	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Monongehela, Yokohama, Japan	*30 33‡	770.4‡	.....	.....	30	— 1.1	??	NW	.....	.....	1	.....	4	.....	N;W	0	0	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	29.95	760.7	51	10.6	51	10.6	86	N	14	6.3	.....	.....	8	.....	N	0.23	5.8	.....	.....	Cloudy	
Onward, Callao, Peru	29.98†	761.5†	.....	.....	67	19.4	95	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	30.32	770.1	31	— 0.6	22	— 5.6	86	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.	.....	.....	.....	.....	32	0.0	90	W	.....	.....	2	.....	5	.....	ESE	.....	.....	.....	.....	Fair	
Pensacola, S. 5° 25′, W. 86° 48′	29.88‡	758.9‡	.....	.....	77	25.0	100	SE	3	1.3	.....	.....	2	.....	SE	0	0	Smooth	SE	Clear	
Powhatan, Norfolk, Va.	29.85	758.2	39	3.9	39	3.9	64	NNE	.....	.....	3–4	.....	5	.....	.....	.....	.....	.....	.....	Clear	
Quinnebaug, N. 36° 24′, W. 8° 10′	30.16‡	766.1‡	.....	.....	59	15.0	82	SSW	.....	.....	4	.....	10	.....	SW	.....	.....	Smooth	.....	Rainy	
Ranger, Yokohama, Japan	*30.36‡	771.1‡	.....	.....	44	6.7	76	NW	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Richmond, N. 36° 03′, W. 16° 09′	30.16‡	766.1‡	.....	.....	64	17.8	73	WSW	.....	.....	3	.....	2	.....	W	Blank	Blank	Cross	NNW; SSW	Fair	
Rio Bravo, Brownsville, Texas	30.09	764.3	64	17.8	61	16.1	94	N	.....	.....	4	.....	10	.....	N	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	29.83‡	757.7‡	.....	.....	32	0.0	.....	NW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.70	754.4	53	11.7	28	— 2.2	.....	NW	10	4.5	.....	.....	2	.....	NNW	0	0	.....	.....	Fair	
Supply, N. 32° 39′, W. 16° 21′	30.19‡	766.8‡	.....	.....	68	20.0	84	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Smooth	.....	Hazy	
Trenton, Villafranca, France	*30.04‡	763.0‡	.....	.....	56	13.3	75	SSW	.....	.....	0–1	.....	10	.....	S;W	0	0	.....	.....	Cloudy	
Tuscarora, N. 13° 33′, W. 94° 08′	29.96‡	761.0‡	.....	.....	76	24.4	91	WNW	.....	.....	1–2	.....	5	.....	NW	0	0	Smooth	.....	Foggy	
Wabash, Boston, Mass.	29.60‡	751.8‡	.....	.....	21	— 6.1	71	NW	6	2.7	.....	.....	10	.....	.....	.....	.....	.....	.....	Fair	
Wyoming, Smyrna, Turkey	30.28	769.1	62	16.7	57	13.9	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			
N. 10° 08', W. 85° 50'.*†		30.05‡	763.3‡	80	26.7	??	N			4		6		NNE	0	Light	NNE	Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia,																			
S. 34° 01', E. 163° 58'		29.82	757.4				SSE			4				SE		Con-fused.	NNE; SSW	Light clouds	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; correction applied at this office.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thomp on.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, N. 31° 49', W. 167° 06'		30.38*	771.6*	56	13.3	81	N			4		k		NE		Mod'ate	N	Foggy	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper	Lower	Upper.	Lower.		Character	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool		30.03‡	762.8	33	0.6	89	SE			5		9		ESE	0			Cloudy	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Instrument al error not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the cooperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

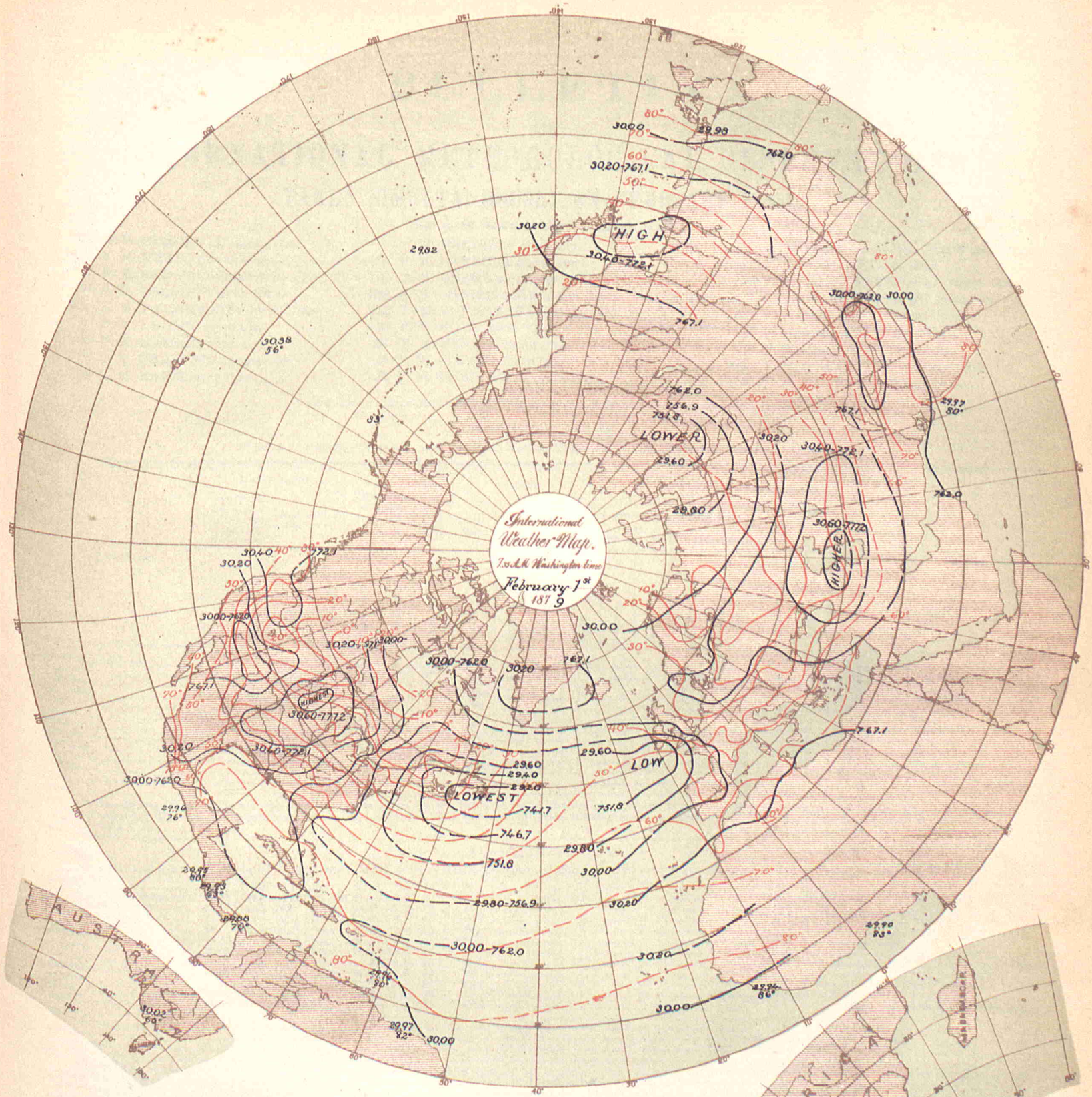
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds or types,* viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq'r.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 2, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.28	769.1	61.0	16.1	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.17	766.3	65.8	18.8	70	E	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.08	764.0	63.7	17.6	61	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.13	765.4	63.0	17.2	76	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.15	765.9	61.9	16.6	66	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.21	767.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.06	763.6	62.6	17.0	28	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.22	767.6	59.9	15.5	38	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.09	764.2	55.0	12.8	98	NNW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.20	767.1	61.9	16.6	38	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.18	766.5	65.8	18.6	42	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.57	757.0	30.14	765.6	36.5	2.5	73	E	.....	.....	1	.....	10	.....	.....	0.012	0.3	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.39	746.5	30.22	767.6	17.6	— 8.0	91	ENE	.....	.....	2	.....	0	.....	.....	0.035	0.9	.....	Dr. Wierzbiski
Eperies	29.19	741.3	30.17	766.2	24.4	— 4.2	73	N	.....	.....	1	.....	1	.....	.....	0.098	2.50	.....	Julius Mikolik.
Gratz	28.84	732.5	30.16	766.1	30.9	— 0.6	88	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.67	725.6	30.05	763.3	35.2	1.8	86	N	.....	.....	2	.....	10	.....	.....	0.022	0.55	.....	Prof. A. Gottschling.
Kremsmünster	28.65	727.8	30.07	763.7	29.5	— 1.4	96	ENE	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.08	738.5	30.16	766.0	12.9	—10.6	97	S	.....	.....	1	.....	10	.....	.....	0.020	0.5	.....	Dr. T. Stanecki.
Pola	29.91	759.8	30.03	762.8	47.8	8.8	88	E	.....	.....	1	.....	10	.....	.....	0.039	1.0	.....	I.R.Hydrographic Office.
Szathmar	29.64	752.9	30.14	765.5	25.4	— 2.0	92	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	.....	.....	.....	.....	31.5	— 0.3	94	Calm	.....	.....	0	.....	10	.....	.....	0.049	1.25	.....	Karl Stancel.
Trieste	29.96	760.9	30.06	763.5	46.2	7.9	76	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	P. Busin.
Vienna	29.30	746.6	30.15	766.9	28.4	— 2.0	88	Calm	.....	.....	0	.....	1	.....	.....	0	0	Foggy	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 413 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m., Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.82	757.4	29.93	760.2	34.4	1.3		SE	20	8.9			9			0.020	0.51	Gloomy	W. Boswell.
Ardrossan																			William McNeil.
Armagh, Observatory			29.65	753.1	33.9	1.1		ENE	11	4.9									S. Call.
Bidston, (Liverpool Obs.)			29.68	753.9	33.8	1.0		ESE	16	7.2			10					Overcast	John Hartnup.
Bolton, (Sharples)			29.73	755.1	33.5	0.8		E	6	2.7			10					Snowing	Thomas Mackereth.
Bradford, Yorkshire																0.25	6.3		J. McLandsborough.
Bridgetown, (Barbados)	29.81	757.2	29.84	757.9	78	25.6		NE			1		8					Overcast	Pvt. J. Surgener, A. H.
Cambridge, Observatory			29.78	756.4	36.0	2.2		SE			1		10					Overcast	H. Todd. [C.
Cardington			29.78	756.4	35.6	2.0		SE			1		10					Foggy	John McLaren.
Chatham, School M. E.	29.66	753.4	29.79	756.7	41.2	5.1		Calm			0		9					Overcast	Corpl. Daly, R. E.
Dartmoor	28.13	714.5	29.62	752.3	39.0	3.9		SE			5		10					Rain & fog	Alexander Watt.
Donaghadee	29.64	752.8	29.69	754.1	35	1.7		ESE			5		10					Overcast	J. Mac Gowan.
Dover	29.76	755.9	29.78	756.4	39	3.9		SW			3		10					Foggy	J. Costello.
Falmouth, Observatory	29.37	746.0	29.60	751.8	48.9	9.4		S			3		10					Foggy	The Staff.
Fort Napier, (Natal)	27.68	703.1	30.00	762.0	68.5	20.3		E			3		10					Overcast	Pvt. S.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.68	753.9	29.90	759.4	87	30.6		W			1		3					D. clouds	
Galway, Queen's College			29.48	748.8	36	2.2		E			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.14	765.5	30.19	766.8	61.2	16.2		W			2		3					Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.58	751.3	29.78	756.4	32.6	0.3		E			3							Snowing	D. G. Maclean.
Great Yarmouth	29.82	757.4	29.82	757.4	34	1.1		SE			4		8					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.59	751.6	29.77	756.1	38.3	3.5		ESE			1		10					Overcast	The Staff, for G. B. Airy
Guernsey	29.46	748.3	29.68	753.9	50	10.0		SSW			3		3					D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.55	750.6	29.67	753.6	51	10.6		SW			2		6k			0.23	5.8	Fair	M. P. Moyle.
Holyhead	29.55	750.6	29.60	751.8	39	3.9		E			2		8					D. clouds	John Tilston.
Jersey	29.44	747.8	29.74	755.4	48.2	9.0		S			3		2					D. clouds	J. Fisher.
Kew, Observatory	29.72	754.9	29.76	755.9	38.1	3.4		E	6	2.7			10					Foggy	The Meteorological Of.
Leicester, Museum	29.48	748.8	29.75	755.6	34.6	1.4		SE			1		10					Drizzling	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.07	763.8	30.15	765.8	60	15.6		SW			1		2k					Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.78	756.4	29.88	758.9	36	2.2		ESE			2		10					Overcast	W. D. Penny.
Nassau, (Bahamas)			30.03	762.8	67.5	19.7		N			2		10					Overcast	C. S. Duncombe.
Nottingham, Observatory	29.56	750.8	29.76	755.9	34.2	1.2		ENE			1		10n			0.334	8.48	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.19	741.4	29.73	755.1	34.4	1.3		ENE			1		10					Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.78	756.4	40	4.4		SSE			1		10					Raining	H. E. Bellamy.
Plymouth	29.56	750.8	29.63	752.6	48.2	9.0		S			2		10					Overcast	John Merrifield.
Roche's Point	29.40	746.7	29.44	747.8	48	8.9		SE			3		8					¾ clouded	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse, (Orkneys.)			29.98	761.5	35.5	1.9		ESE	5	2.2			8					D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			30.07	763.8	53.8	12.1		S			1		7					D. clouds	W. H. Lyne.
Sheffield	29.49	749.0	29.78	756.4	33.9	1.1		Calm			0		10			0.13	3.3	Overcast	W. F. Cooper.
Silloth Rectory	29.69	754.1	29.72	754.9	32.8	0.4	91	E			5		10			0	0	Overcast	Francis Redford, A. M.
Stonyhurst Observatory	29.33	745.0	29.73	755.1	33.6	0.9		NE			1		10					Snowing	Rev. S. J. Perry.
Strathfield Turgiss	29.50	749.3	29.72	754.9	41.7	5.4		S			1		10					Drizzling	C.H.Griffith, F.M.S.
Thurso	29.88	758.9	29.95	760.7	35	1.7		SSE			1		10					Overcast	John Trotter.
Truro, Royal Institution			29.61	752.1	50	10.0		S			4		8					Gloomy	W. Newcombe.
Valencia, Observatory	29.43	747.5	29.45	748.0	44.6	7.0		NNE	13	5.8			10					Misty	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)																			Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.84	757.9	33.0	0.6		E			2		10n			0.22	5.6	Snowing	Andrew Gibb.
Mauritius, Observatory			30.02	762.4	80.8	27.1	72	E	11.5	5.1		3	7		ENE	1.50	38.10	Overcast	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	64.0	17.8	72	SE	6	2.7			0			0	0	Hazy	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.84	757.9	37	2.8		E			4	3	0	E					J. Youngclause.
North Unst, (Shetland Is.)			30.00	762.0	42	5.6		S			2	3	7	S					Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Brig Catherine				Capt. Alex. Wilson.
Barque Commewyne				Capt. A. Buchan.
S. S. Gordon Castle				Capt. W. Waring.
Barque Margaret Smith				Capt. D. W. A. Quaile
Schooner Traveller				Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	59.0	15.0	85	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.07	763.7	30.11	764.9	24.3	— 4.3	84	SSE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Fanöe	30.05	763.3	30.07	763.8	17.4	— 8.1	100	E	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.85	758.3	29.90	759.4	22.8	— 5.1	85	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.02	762.4	30.05	763.3	38.8	3.8	83	N	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....
Vestervig	29.89	759.1	30.06	763.4	20.5	— 6.4	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.8	29.87	758.8	42.4	5.8	94	SW	.....	.....	1	.....	10	.....	.....	0.20	5.	Foggy	Collignon, Director.
Amiens, Normal School	29.80	756.8	29.91	759.8	35.2	1.8	88	E	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.90	759.5	29.98	761.5	47.8	8.8	76	NNE	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	29.93	760.0	29.91	759.7	43.3	6.3	93	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.58	751.4	29.88	758.9	40.3	4.6	90	E	.....	.....	1	.....	10	.....	NE	0.069	1.75	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.90	734.1	29.80	756.9	47.8	8.8	82	E	.....	.....	1	.....	10	.....	SW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.19	741.3	30.09	764.3	41.5	5.3	91	S	.....	.....	1	.....	n	S	S	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.35	745.5	29.91	759.7	49.1	9.5	89	WSW	.....	.....	3	.....	10	W	SW	0 138	3.5	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.38	746.3	29.62	752.4	48.9	9.4	92	SSE	.....	.....	3	.....	9	.....	SSE	0.059	1.50	Foggy	M.de Rermaur, Director
Carcassonne, Normal School	29.54	750.4	29.96	761.0	51.1	10.6	80	NW	.....	.....	1	.....	5	W	NW	0	0	Cloudy	September, Director.
Caen, Normal School	29.68	753.9	29.76	755.8	50.7	10.4	82	SSW	.....	.....	2	.....	10	.....	NNE	0.20	5.	Covered	M. Lair, Director.
Chartres, Normal School	29.24	742.8	29.83	757.7	40.3	4.6	90	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.5	29.91	759.8	39.6	4.2	97	SE	.....	.....	3	.....	10	.....	.....	0	0	Foggy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.5	29.93	760.1	49.8	9.9	64	SW	.....	.....	1	.....	10	.....	SW	0.06	1.6	Covered	Alluard, Director.
Commercy, Normal School	29.05	737.8	29.95	760.6	40.5	4.7	90	E	.....	.....	1	.....	10	.....	E	0	0	Covered	Dr. Coulet. Director.
Commune de Grésque*	28.86	733.1	30.00	762.1	34.0	1.1	68	N	.....	.....	1	.....	8	.....	SSW	0	0	Very cloudy	M. Kina, Director.
Grenoble, Normal School	29.19	741.4	29.97	761.3	43.9	6.6	77	NE	.....	.....	1	.....	8kn	.....	W	0	0	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon. N. School	29.61	752.2	29.83	757.7	50.4	10.2	95	SW	.....	.....	4	.....	10	.....	.....	0.071	1.8	Raining	Mouillot, Director.
Le Mans, Normal School	29.54	750.3	29.85	758.2	46.9	8.3	91	S	.....	.....	2	.....	8	SW	S	0.089	2.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baudry, Director.
Lorient, Naval Observatory	29.68	762.7	29.73	755.2	48.6	9.2	97	S	.....	.....	3	.....	.....	.....	S	0.209	5.3	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.86	733.1	29.93	760.3	41.5	5.3	82	E	.....	.....	1	.....	s	.....	W	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.76	756.0	29.97	761.3	55.8	13.2	72	NE	.....	.....	1	.....	10	.....	NW	0	0	Covered	Boyer, Director.
Privas, Normal School	28.87	733.2	29.96	760.9	45.0	7.2	97	S	.....	.....	1	.....	n	S	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.98	634.5	.....	.....	31.5	— 0.3	100	W	.....	.....	3	.....	.....	.....	.....	0.047	1.2	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.84	757.9	29.87	758.7	50.9	10.5	98	S	.....	.....	1	.....	10	WSW	WSW	1.02	26.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.74	755.4	29.83	757.6	42.6	5.9	91	SE	.....	.....	2	.....	10	.....	.....	0.118	3.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.68	753.8	29.71	754.6	51.8	11.0	77	S	.....	.....	3	.....	5	S	S	0.173	4.40	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.69	754.0	29.85	758.2	41.7	5.4	98	S	.....	.....	1	.....	10	.....	.....	0.075	1.9	Covered	E. Renou, Director.
Tarbes, Normal School	28.85	732.8	29.93	760.1	53.6	12	84	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Versailles Observatory	29.34	745.2	29.83	757.7	42.4	5.8	.....	SW	.....	.....	1	.....	10	.....	.....	0.084	2.12	Covered	Dr. A. Berigny, Director
Villefranche-sur-Saone, N.S.	29.21	742.0	29.95	760.6	42.3	5.7	89	NW	.....	.....	1	.....	10	.....	NW	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	760.9	29.98	761.6	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.08	2.	.....	L'Abbé Marchési.
Lyons, Observatory	.....	.....	29.95	760.8	44.1	6.7	71	NE	.....	.....	1	.....	10	.....	.....	0	0	Dense haze	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.75	628.6	30.07	763.6	39.2	4.0	73	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.99	761.8	55.4	13.0	75	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.57	751.0	.....	.....	42.3	5.7	98	S	.....	.....	1	.....	10	.....	.....	0.030	1.0	Foggy	Marié Davy, Director.
Perpignan	29.87	758.7	29.98	761.4	49.3	9.6	84	W	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.35	567.8	.....	.....	30.2	— 1.0	.....	NW	.....	.....	4	.....	10	.....	.....	0.094	2.4	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.25	743.0	29.97	761.3	50.9	10.5	82	SE	.....	.....	2	.....	9	.....	.....	0.110	2.8	Raining	M. Mercadier Juller.
Tours	29.69	754.0	29.88	759.0	52.3	11.3	80	S	.....	.....	1	.....	7	.....	WSW	0.098	2.5	¾ covered	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.36	771.1	30.38	771.7	36.1	2.3	98	SE	0.4	0.2	.....	.....	0	.....	.....	0.012	0.3	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.20	741.7	30.05	763.2	28.0	— 2.2	83	ESE			3		3	SE		0	0		Prof. Dr. Hoh.
Berlin	29.96	761.0	30.15	765.7	19.8	— 6.8	63	SE			2		0			0	0		Prof. Arndt.
Breslau	29.64	752.9	30.18	766.5	18.3	— 7.6	79	E			2		4			0.028	0.70		Royal University Obs'y
Carlsruhe	29.50	749.4	29.95	760.6	40.6	4.8	70	NE			1		10	SW		0	0		Albert Sens.
Cassel	29.39	746.4	30.00	761.9	30.2	— 1.0	81	ESE			3		8	SW		0	0		Dr. H. Möhl.
Crefeld	29.78	755.2	29.89	759.3	34.5	1.4	72	S			3		8			0	0		Director Lose.
Emden					22.5	— 5.3	97	SE			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.62	752.3	29.99	761.8	35.8	2.1		E			2		8			0	0		Physical Society.
Friedrichshafen	28.50	724.0	29.90	759.4	40.3	4.6	66	WSW			2		8	W		0.036	0.9	Light rain	M. Wilhelm.
Hamburg	30.00	762.0	30.08	763.9	21.9	— 5.6	85	ESE			3		10			0	0	Hazy	Captain F. Hegemann
Kiel	30.05	763.2	30.06	763.6	22.5	— 5.3	88	E			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	30.09	764.3	30.18	766.6	21.2	— 6.0	97	SW			2		10			0	0		Prof. E. Luther.
Köslin			30.18	766.6	12.6	—10.8		SE			2		0			0	0		H. Müller.
Leipsic, Observatory	29.65	753.0	30.09	764.3	26.2	— 3.2	89	ENE			1		2			0.024	0.6	Foggy	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.09	764.2	30.13	765.4	28.6	— 1.9	68	W			3		10n						Skalweit.
Neufahrwasser	30.19	766.8	30.21	767.2	25.5	— 3.6	74	Calm			0		7			0	0		A. Lothes.
Posen	29.94	760.5	30.26	768.5	15.3	— 9.3	70	E			4		0			0	0		Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	29.98	761.5	36.5	2.5	84	NE			1		10	W		0	0		Imp. University Observatory.
Stuttgart	28.99	736.4	29.94	760.5	38.3	3.5	83	N			1		10			0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.46	722.8	30.03	762.8	32.4	0.2	87	SE	2	1			2ks		NW	0	0		Dr. Van Bebber.
Wustrow, Naval School	30.11	764.8	30.13	765.4	11.7	—11.3	93	SE			2		10k			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.75	755.7	30.15	765.7	57.7	14.3		S			0.5							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.93	760.2	29.98	761.4	78.9	26.1	36	W	16	7.2			0			0	0	Blue sky	
Deesa	29.50	749.3	29.98	761.5	76.7	24.8	36	NW	8.2	3.7						0	0	Blue sky	
Bombay	29.93	760.2	29.97	761.1	78.1	25.6	68	NNW	19	8.5			8	NW		0	0	Blue sky	
Poonah	27.96	710.0	29.95	760.7	83.0	28.3		NE					0			0	0	Blue sky	
Lahore	29.24	742.7	30.01	762.2	67.7	19.8	42	Calm	1.4	0.6			0			0	0	Blue sky	
Belgaum	27.43	696.6	29.95	760.7	81.0	27.2	41	Calm					1			0	0	D. clouds	
Roorkee	29.04	737.7	29.97	761..	70.8	21.6	26	NW	4	1.8						0	0		
Agra	29.44	747.9	30.02	762.5	74.7	23.7	38	S								0	0		
Nagpur	28.93	734.9	29.97	761.3	83.6	28.7	25	NW	2	0.9						0	0	Blue sky	
Lucknow	29.61	752.1	29.99	761.8	71.3	21.8	49	NW	2.7	1.2						0	0	Blue sky	
Allahabad	29.71	754.6	30.03	762.7	69.1	20.6	46	Calm	2.3	1.0			0			0	0	Blue sky	
Patna	29.80	757.0	29.99	761.8	72.3	22.4	46	W	2.0	0.9			0			0	0	Blue sky	
Hazaribagh	27.97	710.4	30.04	763.1	64.8	18.2	28	WNW	8.4	3.8			0			0	0	Blue sky	
Cuttack	29.92	760.0	30.00	762.1	76.5	24.7	49	NE	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	30.01	762.2	30.03	762.8	68.5	20.8	50	WNW	0.5	0.2			0			0	0	Blue sky	
Goalpara	29.62	752.4	30.02	762.6	69.9	21.1	37	Calm	3.1	1.4			0			0	0	Blue sky	
Chittagong	29.97	761.1	30.06	763.5	70.0	21.1	94	SW	4.1	1.8			0			0	0		
Sibsagar	29.70	754.5	30.06	763.4	63.9	17.7	70	ENE	1.7	0.8			3			0.02	0.5	Blue sky	
Jubbulpore	28.64	727.3	30.02	762.5	76.3	24.6	24	Calm	1.6	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,610 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.6 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—.	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.65	753.0	30.07	763.7	44.8	7.1	71	SE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.95	760.6	30.06	763.4	44.2	6.8	74	N	1.8	0.8	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.50	749.4	30.04	763.1	39.9	4.4	92	E	.....	.....	1	.....	10	.....	.....	0.094	2.4	.....	Prof. Schiaparelli.
Moncalieri	29.13	739.8	30.06	763.4	37.6	3.1	91	SE	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.07	712.9	30.02	762.4	39.7	4.3	79	N	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.81	757.1	30.00	762.0	50.4	10.2	64	NE	1.8	0.8	.....	.....	10	W	.....	0.004	0.1	.....	Prof. G. M. Garibaldi.
Florence	29.76	755.8	30.02	762.5	50.0	10.0	89	Calm	0	0	.....	.....	10	S	.....	0.421	10.7	.....	Cav. F. Meucci
Leghorn	29.89	759.1	29.97	761.2	53.1	11.7	91	S	1.3	0.6	.....	.....	10	S	.....	0.118	3.0	.....	Prof. P. Monte.
Pesaro	29.98	761.6	30.04	762.9	43.3	6.3	97	NE	5.6	2.5	.....	.....	10	.....	.....	0.059	1.5	.....	Prof. Luigi Guidi.
Rome	29.89	759.1	30.07	763.6	53.8	12.1	89	S	7.4	3.3	.....	.....	10	.....	.....	0.370	9.4	.....	Prof. P. S. Ferrari.
Lecce	29.89	759.1	30.15	765.7	55.6	13.1	61	WSW	12.5	5.6	.....	.....	4	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.83	757.6	30.02	762.5	57.2	14.0	65	SE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.22	742.2	30.12	765.0	56.5	13.6	75	SW	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.86	758.5	30.12	765.0	58.1	14.5	59	NE	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.09	764.3	30.17	766.2	59.7	15.4	73	SSE	6.3	2.8	.....	.....	8	WSW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.58	751.2	30.13	765.3	51.8	11.0	90	SW	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.24	768.1	30.26	768.6	36.5	2.5	86	N	5.8	2.6	.....	.....	0	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.09	764.3	30.30	769.6	37.7	3.2	90	NNE	0.6	0.3	.....	.....	8ck	WSW	.....	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.11	764.8	30.18	766.6	38.5	3.6	87	NNW	5.4	2.4	.....	.....	10s	.....	.....	0.005	0.13	Cloudy	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.12	638.0	30.26	768.5	47.8	8.8	53	SE	.....	.....	1	4c	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.18	766.6	50.5	10.3	80	NNW	.....	.....	3	8c	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.13	587.5	30.33	770.4	43.7	6.5	81	Calm	0	0	.....	0	10k	.....	N	0	0	Foggy	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	49.6	9.8	78	WSW	.....	.....	1	6cs	0	.....	.....	0	0	½ clouded	M. V. de Leon, M. E.
Tlacotalpam	30.19	766.9	30.20	767.2	66	18.9	93	N	.....	.....	4	0	10	.....	N	0.122	3.1	Rainy	M. M. Cházaro.
San Luis Potosi	24.29	617.0	30.28	768.9	60.0	10.0	61	SSE	.....	.....	.....	.....	10	.....	SSE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.19	766.7	30.22	767.3	65.3	18.5	81	N	24.6	11.0	.....	.....	10sk	.....	.....	0.945	24.0	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.6	41.4	5.2	67	E	17.9	8.0	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.4	30.07	763.8	72.1	22.3	77	NE	.....	.....	1	.....	3	.....	.....	0	0	½ clouded	R. Banda, C. E.
San Juan E. Michapam	30.06	763.6	30.19	767.0	67	19.4	.....	Calm	.....	.....	0	6n	4n	N	N	0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,498 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.15	765.9	30.15	765.9	27.0	— 2.8	.....	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.93	760.3	29.99	761.7	.....	.....	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.91	759.7	29.91	759.7	25.5	— 3.6	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.87	758.7	29.87	758.7	31.6	— 0.2	87	E	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.86	758.5	29.91	759.7	30.4	— 0.9	81	ESE	.....	.....	2	.....	5	.....	.....	0.004	0.1	Cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.99	761.8	30.05	763.2	34.5	1.4	66	SSE	5.4	2.4	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.68	753.9	29.72	754.9	30.2	— 1.0	61	N	22	10	.....	.....	8	.....	.....	0.020	0.5	.....	
Christiania	29.81	757.2	29.97	761.2	27.1	— 2.7	85	SSW	4	2	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.51	749.5	29.55	750.6	19.4	— 7.0	78	N	25	11	.....	.....	8	.....	.....	0.220	5.6	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.96	760.9	30.15	765.8	57.9	14.4	74	W	7.4	3.3	.....	.....	4	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.3	30.18	766.6	56.3	13.5	73	SW	6.3	2.8	.....	.....	7	SW	.....	0.079	2.0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.14	765.6	30.23	767.8	67.5	19.7	66	SW	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.81	757.2	30.17	766.3	57.7	14.3	84	SW	16.1	7 2	.....	.....	10	.....	.....	0.016	0.4	.....	The Staff.
Ponta Delgada, (Azores)	30.10	764.6	30.17	766.4	60.1	15.6	56	N	8.7	3.9	.....	.....	3	.....	.....	0.091	2.3	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinta, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.92	759.9	83.8	28.8	.....	W	.....	.....	1	.....	3	.....	W	1	W	D. clouds.	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Bissao, N. 11° 51', W. 16° 37'	.....	.....	29.96	760.9	78.8	26.0	.....	SE	.....	.....	1	.....	0	.....	.....	0	.....	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.81	757.2	85.6	29.8	.....	W	.....	.....	2	.....	2	.....	.....	1	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.24	768.2	59.4	15.2	.....	N	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.78	756.4	30.25	768.3	6.6	—14.1	88	Calm	0	0	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.69	754.0	30.15	765.7	11.7	—11.3	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.68	753 9	29.94	760.4	21.4	— 5.9	93	WSW	9	4	.....	.....	9nks	.....	.....	.....	.....	Heavy clouds.	Prof. Dr. Weihrauch.
St. Petersburg	29.76	755.9	29.78	756.3	24.1	— 4.4	93	W	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.26	743.3	29.94	760.5	21.7	— 5.7	80	N	7	3	.....	.....	10c;ck; ks	.....	.....	.....	.....	Snowing	Physical Cabinet.
Nikolaiev	29.92	760.0	29.99	761.8	36.0	2.2	96	SW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.09	764.3	30.11	764.8	44.4	6.9	87	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.41	747.1	30.01	762.3	11.5	—11.4	93	SSE	7	3	.....	.....	10s	.....	.....	.....	.....	Snowing	Meteorological Obs.
Lugan	29.89	759.3	30.11	764.7	29.6	— 1.4	68	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.66	753.3	29.68	753.8	5.7	—14.6	87	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.95	735.3	30.48	774.1	24.1	— 4.4	95	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.50	774.7	30.42	772.6	26.8	— 2.9	64	SE	2	1	.....	.....	2c;ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Trotkowo*	29.73	755.1	30.26	768.5	2.8	—16.2	68	W	2	1	.....	.....	3ks	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.88	759.0	30.18	766.6	5.9	—14.5	79	S	4	2	.....	.....	10	.....	.....	.....	.....	Light snow.	Physical Cabinet.
Ekaterinburg	29.11	739.4	30.16	766.0	10.2	—12.1	77	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.95	735.3	30.80	782.4	25.2	— 3.8	95	Calm	0	0	.....	.....	10	.....	.....	Blank	Blank	.....	Teich, A. M.
Barnaul	29.71	754.5	30.25	768.3	12.6	—11.1	89	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.78	756.4	30.10	764.4	9.9	—12.3	77	WSW	16	7	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.05	763.2	30.19	766.8	29.5	— 1.4	60	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.84	758.0	29.95	760.7	59.7	15.4	56	WSW	4.0	1.78	.....	.....	5ck	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.82	757.5	29.88	759.0	57.9	14.4	66	S	3.2	1.43	.....	.....	10	.....	.....	0.024	0.6	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.04	686.7	.....	.....	45.3	7.4	94	SW	13.0	5.83	.....	.....	9	.....	.....	0.118	3.0	Raining	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4	.....	.....	47.7	8.7	95	SW	17.2	7.67	.....	0	10	.....	.....	0.004	0.1	Covered	The Staff.
Murcia, Met. Obs'y	29.96	761.0	30.11	764.8	68.5	20.3	53	S	2.7	1.22	.....	1	6	SW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.96	735.6	29.86	758 4	63.8	12.1	98	SW	26.2	11.7	.....	.....	10	.....	.....	1.020	25.9	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Manilla, Philippine Islands	29.91	759.7	29.96	761.1	80.6	27.0	93	NNE	0	0	.....	.....	1s	.....	E	1.37	34.9	Clear	Benito Vines, S. J.
San Fernando, Naval Obs'y	30.14	765.6	30.24	768.2	60.3	15.7	81	WNW	3.5	1.6	.....	0	4	.....	NW	0.032	0.8	.....	Federico Faura, S. J.
San Juan de Porto Rico, W. I.	29.97	761.2	30.06	763.5	68.0	20.0	86	SW	0	0	.....	.....	2s	0	.....	0	0	Clear	Capt. C. Pujazon, R. N. Dir. Leonardo de Tejeda, Ch't. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Haparanda	29.64	752.9	29.68	753.9	0.7	—17.4	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.56	750.9	29.61	752.2	15.1	— 9.4	87	SW	.....	.....	2	.....	7	.....	.....	0.126	3.2	.....	
Hernosand	29.66	753.3	29.71	754.6	26.6	— 3.0	83	Calm	.....	.....	0	.....	5	.....	.....	0.083	2.1	Snowing	
Stockholm	29.76	756.0	29.94	760.5	23.2	— 4.9	90	W	.....	.....	4	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.97	761.3	30.03	762.8	25.5	— 3.6	82	WNW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.83	757.6	29.90	759.5	22.6	— 5.2	93	WSW	11.0	4.9	.....	.....	10	.....	.....	0.001	0.03	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	724.9	30.03	762.8	33.1	0.6	88	S	.....	.....	1	.....	10	.....	.....	0	0	Foggy	The Observatory.
Zurich	28.31	719.1	30.01	762.3	36.1	2.3	85	SE	.....	.....	1	.....	6	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.1 mm.; Thermometer, —1.9 ent.; Relative Humidity, +13 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.13	765.2	58.8	12.1	52	S	2	1.0	.....	.....	8	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.12	765.0	57.0	13.9	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.03	762.8	30.15	765.7	59.4	15.2	67	SE	.....	.....	1	.....	10n	.....	SW	0.01	0.3	Overcast	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.49	749.0	29.83	757.7	5	—15.0	.....	W	1	0.4	.....	.....	10n	.....	W	0.10	2.5	Light snow	W. R. Bigg.
*Chatham, N B	28.95	735.3	29.01	736.8	31	— 0.6	95	N	8	3.6	.....	.....	10n	.....	N	0.64	16.3	Light snow	G. A. Blair.
Charlottetown, P. E. Island	28.75	730.2	28.80	731.5	30	— 1.1	98	N	7	3.1	.....	.....	10n	.....	Calm	0.255	6.48	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.46	748.3	29.68	753.9	50	10.0	100	NW	.....	.....	3	.....	10n	.....	.....	0.10	2.5	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.26	768.6	30.31	769.9	37.1	2.8	100	Calm	.....	.....	.....	.....	10	.....	.....	0.01	0.3	Overcast	W. H. Bevis.
*Father Point, Quebec	29.23	742.4	29.25	742.9	36	2.2	77	N	30	13.4	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	J. McWilliams.
Fredericton, N. B	28.98	736.1	29.04	737.6	30	— 1.1	89	NW	6	2.7	.....	.....	10n	.....	.....	0.14	3.6	Light snow	Prof. Harrison.
*Fort Garry Manitoba	29.25	742.9	30.14	765.5	16	— 8.9	95	W	5	2.2	.....	5k	5n	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.87	733.3	30.00	763.5	16	— 8.9	..	N	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S	28.65	727.7	28.70	731.3	27	— 2.8	96	W	12	5.4	.....	.....	10n	.....	.....	0.160	4.06	Light snow	F. Allison, M. A.
Hamilton, Ontario	29.65	753.1	30.05	763.3	13.1	—10.5	88	W	.....	.....	2	10cs	0	W	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.48	748.8	29.85	758.2	5	—15 0	90	W	6	2.7	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.74	755.4	29.78	756.4	22.2	— 5.4	90	W	2	0.9	.....	.....	10n	.....	.....	0.10	2.5	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.36	745.7	29.58	751.3	6	—14.4	86	W	36	16.1	.....	.....	10n	.....	.....	0.36	9.1	Heavy snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.29	744.0	30.06	763.5	5	—15.0	83	W	10	4.5	.....	.....	10n	.....	W	Inap.	Inap.	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.11	739.4	29.94	760.5	— 0.6	—18.1	89	NW	.....	.....	.....	0	7ks	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.29	744.0	30.05	763.3	12	—11.1	100	NW	9	4.0	.....	10k	0	NW	.....	0.01	0.3	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.39	746.5	30.09	764.3	16	— 8.9	92	W	12	5.4	.....	.....	10n	.....	NW	0.15	3.8	Light snow	M. Payne.
*Quebec, Quebec	29.07	738.4	29.41	747.0	13	—10.6	81	W	.....	.....	5	.....	10n	.....	W	0.12	3.0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746 7	29.90	759 4	7	—13.9	86	NW	10	4.5	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.20	767.1	30.25	768.3	24	— 4.4	75	N	.....	.....	3	0	0	.....	.....	0.19	4.8	Clear	Dr. Gove.
St. John, N. B	28.85	732.8	29.02	737.1	29	— 1.7	77	NW	15	6.7	.....	.....	10ks	.....	.....	0.38	9.7	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.09	764.3	12	—11.1	83	NE	7	3.1	.....	.....	10ks	.....	.....	0.10	2.5	Light snow	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Inap.	Inap	.....	R. J. Cole.
Stratford, Ontario	28.70	729.0	30.10	764.5	10.3	—12.1	88	NW	10.0	4.5	.....	.....	10s	.....	.....	0.10	2.5	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	28.71	729.2	28.75	730.2	19	— 7.2	95	Calm	0	0	.....	10cs	0	.....	.....	0.15	3.8	Fair	T. C. Hill.
*Toronto, Ontario	29.56	750.8	29.98	761.5	12	—11.1	73	NW	16	7.2	.....	8ck	2s	NW	NW	0.05	1.3	Cloudy	Magnetic Observatory.
Windsor, N. S	28.76	730.5	28.86	733.0	30.0	— 1.7	96	NW	11	4.9	.....	.....	10n	.....	.....	0.05	1.3	Snowing	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	29.0	— 1.7	89	S	.....	.....	.....	.....	n	.....	.....	0.17	4.3	Snowing	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.43	747.5	29.68	753.9	5	—15.0	86	NW	24	10.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy.	
Alpena, Michigan	29.45	748.0	30.15	765.8	15	— 9.4	82	NW	19	8.5	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.	
Atlanta, Georgia	29.05	737.9	30.28	769.1	25	— 3.9	63	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	29.69	754.1	29.71	754 6	20	— 6.7	56	NW	18	8.0	.....	5k	0	NW	.....	0	0	Fair.	
Augusta, Georgia	30.03	762.8	30.22	767.6	31	— 0.6	38	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Baltimore, Maryland	29.77	756.1	29.82	757.4	23	— 5.0	73	W	16	7.2	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear.	
Barnegat, New Jersey	29.64	752.8	29.67	753.6	18	— 7.8	84	NW	27	12.1	.....	8c;k	0	Calm	.....	0.01	0.3	Fair.	
Bismarck, Dakota	28.33	719.6	30.19	766.8	24	— 4.4	87	NW	15	6.7	.....	Haze	2s	.....	Calm	0	0	Fair.	
Boerne, Texas	28.90	734.0	30.30	769.6	40	4.4	91	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Boise City, Idaho	27.65	702.3	30.61	777.5	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Boston, Massachusetts	29.20	741.7	29.36	745.7	14.5	— 9.7	56	NW	18	8.0	.....	.....	10s	.....	N	0	0	Cloudy.	
Brackettville, Texas	29.24	742.7	30.32	770.1	44	6.7	92	NE	2	0.9	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.	
Breckenridge, Minnesota	29.01	736.8	30.08	764.0	15	— 9.4	91	NW	14	6.3	.....	10cs	0	Calm	.....	0	0	Cloudy.	
Brownsville, Texas	30.30	769.6	30.37	771.4	50	10.0	93	N	2	0.9	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy.	
Buffalo, New York	29.24	742.7	30.00	762.0	8	—13.3	89	W	17	7.6	.....	.....	10n	.....	W	0.04	1.0	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	14	S	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Burlington, Vermont	29.35	745.5	29.66	753.4	6	—14.4	76	N	5	2.2	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Cairo, Illinois	30.09	764.3	30.52	775.2	26	— 3.3	75	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.52	643.1	30.12	765.0	39	3.9	82	NE	4	1.8	.....	0	2ks	.....	E	0.25	6.3	Clear.	
Camp Verde, Arizona	.....	.....	.....	.....	25	— 3.9	38	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Campo, California	27.51	698.7	30.08	764.0	38	3.3	71	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.96	761.0	29.97	761.2	29	— 1.7	78	NW	18	8.0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Cape Henry, Virginia	29.88	758.9	29.90	759 4	25	— 3.9	62	NW	14	6.3	.....	1k	0	NW	.....	0	0	Clear.	
Cape Lookout, N. Carolina	29.98	761.5	30.00	762.0	28	— 2.2	77	NW	26	11.6	.....	0	0	.....	.....	0	0	Clear.	
Cape May, New Jersey	29.72	754.9	29.75	755.6	22	— 5.6	58	NW	46	20.6	.....	0	0	.....	.....	0	0	Clear.	
Castroville, Texas	29.50	751.6	30.33	770.4	48	6.1	75	NE	2	0.9	.....	.....	10n	.....	SW	0.02	0.5	Light rain.	
Charleston, South Carolina	30.13	765.3	30.20	767.1	31	— 0.6	58	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Cheyenne, Wyoming	24.22	615.2	30.16	766.1	12	—11.1	80	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.61	752.1	30.37	771.4	16	— 8.9	83	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.63	752.6	30.33	770.4	23	— 5.0	73	NW	8	3.6	.....	5k	2s	NW	NW	Inap.	Inap.	Clearing.	
Cleveland, Ohio	29.41	747 0	30.19	766.8	17	— 8.3	83	NW	19	8.5	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.	
Coleman City, Texas	28.55	725.2	30.32	770.1	37	2.8	36	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Columbus, Ohio	29.33	745.0	30.23	767.8	20	— 6.7	70	NW	12	5.4	.....	.....	10s	.....	NW	0.01	0.3	Cloudy.	
Concho, Texas	28.39	721.1	30.15	765.8	38	3.3	63	NE	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy.	
Corsicana, Texas	29.95	760.7	30.45	773.4	37	2.8	63	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Davenport, Iowa	29.70	754.4	30.41	772.4	16	— 8.9	66	W	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Deadwood, Dakota	25.54	648.7	.....	.....	30	— 1.1	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Decatur, Texas	29.25	742.9	30.50	774.7	34	1.1	88	NE	6	2.7	.....	.....	10s	.....	NE	0	0	Cloudy.	
Denison, Texas	29.62	752.3	30.48	774.2	33	0.6	79	NW	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy.	
Denver, Colorado	24.98	634.5	30.20	767.1	18	— 7.8	84	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Des Moines, Iowa	29.41	747.0	30.37	771.4	17	— 8.3	83	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear.	
Detroit, Michigan	29.46	748.3	30.18	766.6	18	— 7.8	69	NW	9	4.0	.....	.....	10s	.....	NW	0.02	0.5	Cloudy.	
Dodge City, Kansas	27.68	703.1	30.12	765.0	26	— 3.3	88	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.63	752.6	30.41	772.4	12	—11.1	61	Calm	0	0	.....	1cs	Fog	S	Calm	0	0	Fair.	
Duluth, Minnesota	29.43	747.5	30.17	766.3	13	—10.6	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Eagle Pass, Texas	29.59	751.6	30.38	771.6	43	6.1	83	NE	.....	.....	1	.....	10n	.....	Calm	0.01	0.3	Light rain.	
Eastport, Maine	28.96	735.6	29.03	737.3	26	— 3.3	94	NW	23	10.3	.....	5k	5n	N	NW	0.27	6.9	Light snow.	
Edinburg, Texas	.....	.....	.....	.....	49	9.4	37	N	.....	.....	1	.....	10s	.....	Calm	0.48	12.2	Cloudy.	
El Paso, Texas	26.46	672.1	.....	.....	55	12.8	55	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy.	
Erie, Pennsylvania	29.31	744.5	30.08	764.0	15	— 9.4	100	NW	2	0.9	.....	.....	10n	.....	Calm	0.06	1.5	Light snow.	
Escanaba, Michigan	29.59	751.6	30.31	769.9	10	—12.2	79	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Florence, Arizona	28.64	727.4	30.24	768.1	47	8.3	48	E	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear.	
Fort Buford, Dakota	.....	.....	.....	.....	25	— 3.9	63	NW	.....	.....	1	0	2s	.....	Calm	0	0	Fair.	
Fort Craig, New Mexico	25.71	653.0	29.77	756.1	32	0.0	79	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Davis, Texas	25.35	643.9	30.31	769.9	35	1.7	80	SW	2	0.9	.....	0	5ks	.....	SW	0.05	1.3	Foggy	
Fort Gibson, Indian Ter	29.88	758 9	30.46	773.7	25	— 3.9	87	Calm	0	0	.....	8ck	0	NW	.....	0	0	Fair.	
Fort Griffin, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Keogh, Montana	27.76	705.1	.....	.....	31	— 0.6	69	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Fort McKavett, Texas	28.11	714.0	30.13	765 3	40	4.4	56	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.15	740.4	30.34	770.6	30	— 1.1	78	Calm	0	0	.....	0	5s	.....	.....	0	0	Fair.	
Fort Stevenson, Dakota	28.24	717.3	.....	.....	22	— 5.6	72	NW	.....	.....	4	1cs	0	W	.....	0	0	Fair.	
Fredericksburg, Texas	28.60	726.4	30.25	768.3	40	4.4	100	NE	3	1.3	.....	.....	10n	.....	Calm	0.02	0.5	Light rain.	
Galveston, Texas	30.40	772.1	30.44	773.2	48	8.9	93	NL	18	8.0	.....	.....	10s	.....	NE	0.03	0.8	Cloudy.	
Graham, Texas	29.32	744.7	30.45	773.4	31	— 0.6	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Grand Haven, Michigan	29.56	750.8	30.26	768.6	28	— 5.0	73	NE	10	4.5	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
Indianapolis, Indiana	29.48	748.8	30.32	770.1	22	— 5.6	72	W	7	3.1	.....	0	0	.....	.....	0.01	0.3	Clear.	
Indianola, Texas	30.38	771.6	30.40	772.1	49	9.4	93	NE	16	7.2	.....	.....	10s	.....	NE	0	0	Cloudy.	
Jacksboro, Texas	29.27	743.4	30.48	774.2	34	1.1	79	E	4	1.8	.....	10cs	0	S	.....	0	0	Cloudy.	
Jacksonville, Florida	30.22	767.6	30.24	768.1	35	1.7	45	NW	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Keokuk, Iowa	29.74	755.4	30.42	772.6	17	— 8.3	83	NW	4	1.8	.....	1c	0	W	.....	0	0	Clear.	
Key West, Florida	30.08	764.0	30.11	764.8	63	17.2	72	N	19	8.5	.....	8c;k	0	W;N	.....	0	0	Fair.	
Kittyhawk North Carolina	29.90	759.4	29.92	760.0	25	— 3.9	66	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear.	
Knoxville, Tennessee	29.29	744.0	30.38	771.6	21	— 6.1	86	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
La Crosse, Wisconsin	29.51	749.5	30.31	769.9	15	— 9.4	82	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.	
La Mesilla, New Mexico	26.26	667.0	30.41	772.4	37	2.8	90	Calm	0	0	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.	
Laredo, Texas	29.95	760.7	30.31	769.9	46	7.8	92	N	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.	
Leavenworth, Kansas	29.48	748.8	30.40	772.1	24	— 4.4	74	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Los Angeles, California	29.70	754.4	30.05	763.3	47.0	8.3	66	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Louisville, Kentucky	29.77	756.1	30.38	771.6	22	— 5.6	72	W	8	3.6	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Smoky.	
Lynchburg, Virginia	29.29	744 0	30.02	762.5	25	— 3.9	63	NW	12	5.4	.....	0	2ks	.....	W	0	0	Clear.	
Madison, Wisconsin	29.29	744.0	30.37	771.4	17	— 8.3	67	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.49	749.0	30.26	768.6	13	—10.6	62	NW	8	3.6	.....	0	5s	.....	Calm	0.07	1.8	Fair.	
Mason, Texas	28.72	729.5	30.56	776.2	44	6.7	60	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Memphis, Tennessee	30.16	766.1	30.50	774.7	28	— 2.2	77	NE	3	1.3	.....	2cs	0	Calm	.....	0	0	Clear.	
Milwaukee, Wisconsin	29.54	750.3	30.34	770.6	15	— 9.4	65	NW	7	3.1	.....	0	1s	.....	Calm	0	0	Clear.	
Mobile, Alabama	30.37	771.4	30.41	772.4	35	1.7	61	N	8	3.6	.....	10c	0	W	.....	0	0	Cloudy.	
Montgomery, Alabama	30.15	765.8	30.41	772.4	31	— 0.6	68	N	6	2.7	.....	1cs	0	NW	.....	0	0	Clear.	
Morgantown, West Virginia	29.00	736.6	30.12	765.0	22	— 5.6	72	NW	12	5.4	.....	.....	10ks	.....	NW	Inap.	Inap.	Cloudy.	
Mt. Washington, N. H.	22.91	581.9	29.27	743.4	7	—13.9	100	NE	48	21.6	.....	.....	10n	.....	NE	0.74	18.8	Light snow.	
Nashville, Tennessee	29.88	758.9	30.46	773.7	23	— 5.0	75	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
New Haven, Connecticut	29.42	747.2	29.54	750.3	12	—11.1	80	NW	17	7.6	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow.	
New London, Connecticut	29.42	747.2	29.47	748.5	10	—12.2	79	NW	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy.	
New Orleans, Louisiana	30.33	770.4	30.40	772.1	42	5.6	42	NE	11	4.9	.....	2cs	0	W	.....	0	0	Fair.	
Newport, Rhode Island	29.39	746.5	29.44	747.8	14	—10.0	84	W	19	8.5	.....	.....	10s	.....	Calm	0	0	Cloudy.	
New York, New York	29.47	748.5	29.66	753.4	14	—10.0	63	NW	24	10.7	.....	0	8s	.....	Calm	0	0	Fair.	
Norfolk, Virginia	29.87	758.7	29.94	760.5	24	— 4.4	48	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.	

UNITED STATES SERIES.—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.90	693.4	30.13	765.3	10	—12.2	79	NW	16	7.2	... ...	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.29	769.4	30.34	770.6	29.2	— 1.6	100	E	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	29.07	738.4	30.24	768.1	26	— 3.3	75	S	9	4.0	... ...	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.54	750.3	29.88	758.9	9	—12.8	78	NW	15	6.7	... ...	.....	10n	.....	.....	0.03	0.8	Light snow.	
Pembina, Dakota	29.23	742.4	30.11	764.8	20	— 6.7	100	W	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	29.70	754.4	29.75	755.6	19	— 7.2	85	NW	27	12.1	.....	2k	0	W	.... .	0.01	0.3	Fair	
Phœnix, Arizona	28.97	735 8	30.85	783.6	41	5.0	74	Calm	.....	.....	0	0	0	.....	.....	Inap.	Inap.	Clear	
Pike's Peak, Colorado	17.74	450.6	29.95	760.7	8	—13.3	83	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.27	616.4	30.04	763.0	18	— 7.8	84	NW	8	3.6	.. ..	0	0	.....	.....	0	0	Clear.	
Pittsburg, Pennsylvania	29.28	742.4	30.10	764.5	18	— 7.8	84	NW	13	5.8	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow.	
Port Huron, Michigan	29.43	747.5	30.15	765.8	14	—10.0	82	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.21	741.9	29.26	743.2	21	— 6.1	86	NW	12	5.4	.....	8k	0	NW	.....	0.03	0.8	Cloudy	
Portland, Oregon	30.34	770.6	30.44	773.2	32.5	0.3	79	N	3	1.3	.....	0	1s	.....	.....	0	0	Clear	
Prescott, Arizona	24.85	631.2	30.21	767.3	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.06	738.1	29.90	759.4	40	4 4	82	N	9	4.0	.....	5k	5s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	51	10.6	40	N	18	8.0	.....	2cs	0	SW	.....	0	0	Clear	
Red Bluff, California	29.84	757.9	30.22	767.6	44	6.7	52	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.21	767 3	30.44	773.2	51	10.6	65	N	2	0.9	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Rochester, New York	29.25	742.9	29.61	759.7	10	—12.2	79	W	14	6.3	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Roseburg, Oregon	29.81	757.2	30.42	772.6	27.0	— 2.8	100	E	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Sacramento, California	30.09	764.3	30.17	766.3	40.5	4.7	86	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.84	757.9	30.47	773.9	24	— 4.4	74	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.20	767.4	30.31	769.9	33	0.6	54	N	10	4.5	.....	7c;cs	0	N	.....	0	0	Fair	
St. Paul, Minnesota	29.24	742.7	30.14	765.5	15	— 9.4	82	SE	11	4.9	.....	1cs	0	Calm	.....	0	0	Clear	
Salt Lake City, Utah	26.04	661.4	30.37	771.4	23	— 5.0	60	E	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Threatening	
San Antonio, Texas	29.70	754.4	30.32	770.1	44	6.7	76	NE	3	1.3	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
San Diego, California	29.98	761.5	30.06	763.5	48	8.9	67	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.51	749.5	30.23	767.8	20	— 6.7	85	NW	16	7.2	.....	.....	10s	.. ..	NW	0.04	1.0	Cloudy	
Sandy Hook, New Jersey	29.61	752.1	29.66	753.1	15	— 9.4	65	NW	40	17.9	.....	8cs	2s	N	N	0	0	Cloudy	
San Francisco, California	30.09	764.3	30.16	766.1	47	8.3	100	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	22	— 5.6	58	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.12	765.0	30 22	767.6	32	0.0	50	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.24	768.1	30.48	774.2	38	3.3	72	Calm	0	0	.....	0	4s	.....	Calm	0	0	Fair	
Silver City, New Mexico	24.40	619.8	30.77	781.5	34	1.1	90	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Threatening	
Smithville, North Carolina	30.08	764.0	30.11	764.8	26	— 3.3	63	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.40	746.7	29.54	750.3	12	—11.1	61	NW	6	2.7	.....	8c	0	NW	.....	0	0	Cloudy	
Stockton, Texas	27.20	690.9	30.20	767.1	30	2.2	90	N	8	3.6	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Thatcher's Island, Mass	29.27	743.4	29.34	745.2	12	—11.1	42	NW	30	13.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Toledo, Ohio,	29.48	748.8	30.20	767.1	24	— 4.4	87	N	8	3.6	.....	.....	10s;n	.....	Calm	Inap.	Inap.	Light snow.	
Tucson, Arizona	.....	.....	.....	.....	53	11.7	66	SE	6	2.7	.....	0	0	.....	.....	0.28	7.1	Clear	
Tybee Island, Georgia	30.18	766.6	30.22	767.6	32	0.0	59	NW	15	6.7	.....	0	0	.....	.....	0.04	1.0	Clear	
Umatilla, Oregon	30.13	765.3	30.67	779.0	25.0	— 3.9	87	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	33	0.6	89	SE	.....	.....	1	.....	10s	.....	SW	0.43	10.9	Cloudy	
Uvalde, Texas	29.49	749.0	30.36	771.1	43	6.1	75	E	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Vicksburg, Mississippi	30.23	767.8	30.51	774.9	36	2.2	61	NE	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Virginia City, Montana	24.44	620.8	29.92	760.0	15	— 9.4	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.81	757.2	30.20	767.1	36.2	2.3	84	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.74	755.4	29.86	758.4	22	— 5.6	66	NW	21	9.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	38	3.3	72	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.99	761.7	30.08	764.0	26	— 3.3	67	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.96	659.4	30.32	770.1	20	— 6.7	70	E	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.34	745.2	29.38	746.2	15	— 9.4	66	NW	30	13.4	.....	.....	10s	NW	.....	Inap.	Inap.	Threatening	
Yankton, Dakota	28.85	732.8	30.24	768.1	17	— 8.3	75	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.91	759.7	30.08	764.0	62	11.1	54	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	28.78	731.0	30.31	769.9	25	— 3.9	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba, W. I.	30.05	763.3	30.10	764.5	70	21.1	75	NW	9.6	4.3	.....	.....	10n	.....	NW	0.15	3.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.99	761.7	30.07	763.8	76	24.4	.....	NE	14	6.3	.....	.....	.....	.....	.....	0	0	Cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	79	26.1	91	E	.....	.....	2	.....	10cs	.....	.....	0.670	17.02	Cloudy	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.03	752.6	29.08	753.9	—37.0	—38.3	.....	SW	12	5.4	.....	.....	10s	.....	S	0.01	0.3	Threatening	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,755 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft,. or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,916 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.32 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.56 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12	765.0	44	6.7	50	10.0	52	ESE	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	44	6.7	68	N	10	4.5	.....	.....	5	.....	W	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.40	746.7	49	9.4	15	— 9.4	82	WNW	8	3.6	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Naval Hospital, Yokohama, Japan.....*	30.19‡	766.8‡	.....	.....	40	4.4	86	N	.....	.....	2	.....	9ks	.....	SW; N	Blank	Blank	.....	.....	Cloudy.....	
Adams. Callao, Peru.....	29.95	760.7	70	21.1	68	20.0	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Alaska. N 15° 32′, W. 96° 40′.....	30.10	764.5	79	26.1	78	25.6	82	WNW	.....	.....	2	.....	0	.....	.....	0	0	Mod'ate	NW	Blue sky.....	
Alliance, Smyrna, Turkey.....	30.15‡	765.8‡	.....	.....	62	16.7	46	S	.....	.....	0–1	.....	6	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Ashuelot. N. 16° 07′, E. 108° 17′.....	30.14‡	765.5‡	.....	.....	70	21.1	90	NNE	.....	.....	3	.....	10	.....	NNE	.....	.....	Smooth	.....	Raining.....	
Canonicus, New Orleans, La.....	30.40	772.1	37	2.8	41	5.0	100	N	.....	.....	4	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	29.54	750.3	17	— 8.3	15	— 9.4	100	NW	27	12.1	.....	.....	5	.....	NW	0	0	.....	.....	Clear.	
Constitution, N. 49° 45′, W. 9° 51′.....	29.53‡	750.0‡	.....	.....	49	9.4	93	W	.....	.....	1	.....	4	.....	NW	.....	.....	Mod'ate	W	Fair	
Despatch, Constantinople, Turkey	30.11‡	764.8‡	.....	.....	52	11.1	79	SSE	.....	.....	3	.....	5	.....	S	.....	.....	.....	.....	Fair.....	
Essex, Stanley, Falkland Isl'ds	29.25	742.9	67	19.4	55	12.8	93	WNW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.....	30.07	763.8	65	18.3	29	— 1.7	78	NNW	12	5.4	.....	.....	2	.....	NNW	0	0	.....	.....	Clear.....	
Gettysburg, Genoa, Italy	29.94‡	760.5‡	.....	.....	53	11.7	80	NNE	.....	.....	3	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Hartford, Montevideo, Uruguay...	29.90	759.4	78	25.6	81	27.2	56	NNW	12.0	5.4	.....	.....	2	.....	.....	0	0	Smooth	.....	Fair	
Lackawana, Panama.....*...	29.75‡	755.6‡	.....	.....	78	25.6	91	WSW	.....	.....	1–2	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....	30.00†	762.0†	.....	.....	13	—10.6	81	NW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcas	
Monocacy, Shanghai, China.....*..	30.42‡	772.6‡	.....	.....	40	4.4	82	ESE	.....	.....	1	.....	5	.....	ESE	.....	.....	.....	.....	Fair	
Monongehela, Yokohama, Japan ....*..	30.14‡	765.5‡	.....	.....	37	2.8	90	NW	.....	.....	1	.....	10	.....	N;W	0	0	.....	.....	D. clouds....	
New Hampshire, Port Royal, S. C.....	30.15	765.8	34	1.1	34	1.1	71	NW	15	6.7	.....	.....	8	.....	N	0	0	.....	.....	Clear.	
Onward, Callao, Peru.....	30.01†	762.2†	.....	.....	68	20.0	90	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.19	766.8	37	2.8	28	— 2.2	88	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear..	
Passaic, Washington, D. C.....	.....	.....	.....	....	25	— 3.9	75	WNW	.....	.....	4	.....	5	.....	ESE	.....	.....	.....	.....	Fair	
Pensacola, S. 6° 30′, W. 87° 40′.....	29.94‡	760.5‡	.....	.....	78	25.6	82	SE	8	3.6	.....	.....	0	.....	.....	0	0	Smooth	SE	Clear.....	
Powhatan, N. 34° 55′, W. 74° 12′..... .	29.88	758.9	41	5.0	41	5.0	66	NW	.....	.....	6–7	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Quinnebaug, Gibraltar.....	30.21‡	767.3‡	.....	.....	63	17.2	78	WNW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.	
Ranger. Yokohama, Japan.....*...	30.17‡	766.3‡	.....	....	49	9.4	71	N	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 36° 07′, W. 14° 09′.....	30.17‡	766.3‡	.....	.....	65	18.3	78	S	.....	.....	5	.....	8	.....	W	.....	.....	Smooth	NW	Fair	
Rio Bravo, Brownsville, Texas.....	30.29	769.4	58	14.4	51	10.6	86	N	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md...	29.82‡	757.4‡	.....	.....	25	— 3.9	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa	29.66	753.4	54	12.2	20	— 6.7	.....	NW	20	8.9	.....	.....	5	.....	NW	0	0	.....	.....	Fair	
Supply, N. 32° 35′, W. 16° 21′.....	30.27‡	768.8‡	.....	.....	65	18.3	94	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Trenton. Villafranca, France *...	29.97	761.2	.....	....	61	16.1	88	SE	.....	.....	1–2	.....	8	.....	S;E	0	0	.....	.....	Cloudy.....	
Tuscarora, N. 14° 26′, W. 95° 20′.....	30.03‡	762.8‡	.....	.....	80	26.7	82	NNE	.....	.....	5–6	.....	0	.....	.....	0	0	Rough	ENE	Clear.....	
Wabash, Boston, Mass.....	29.41‡	747.0‡	.....	.....	16	— 8.9	83	NW	17	7.6	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Wyoming, Smyrna, Turkey.....	30.26	768.6	65	18.3	61	16.1	94	S	.....	.....	2–3	.....	5	.....	S	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			
N. 18° 00′, W. 89° 00′.*†		30.13‡	765.3‡	82	27.8	100	NE			5		0			0			Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia,																			
S. 34° 10′, E. 169° 10′...*..		29.88‡	758.9‡				E			3				ESE		Mod'ate	SW; SE	Gloomy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; correction applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			
S. S. Britannic,																			
N. 40° 36′ W. 68° 39′....*		29.34†	745.2†	22	— 5.6		W			5		5?			Blank	Mod'ate	W	Overcast?	Capt. H. Perry.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. *Instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer,																			
N. 31° 47′, W. 171° 35′		30.26†	768.6†	61	16.1	71	S			2		ks		S		Mod'ate	S	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Instrumental error not known. Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool.....*		29·64‡	752.8‡	33	0.6	89	ESE			5		9		ESE	0			Cloudy	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the cooperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorge used.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

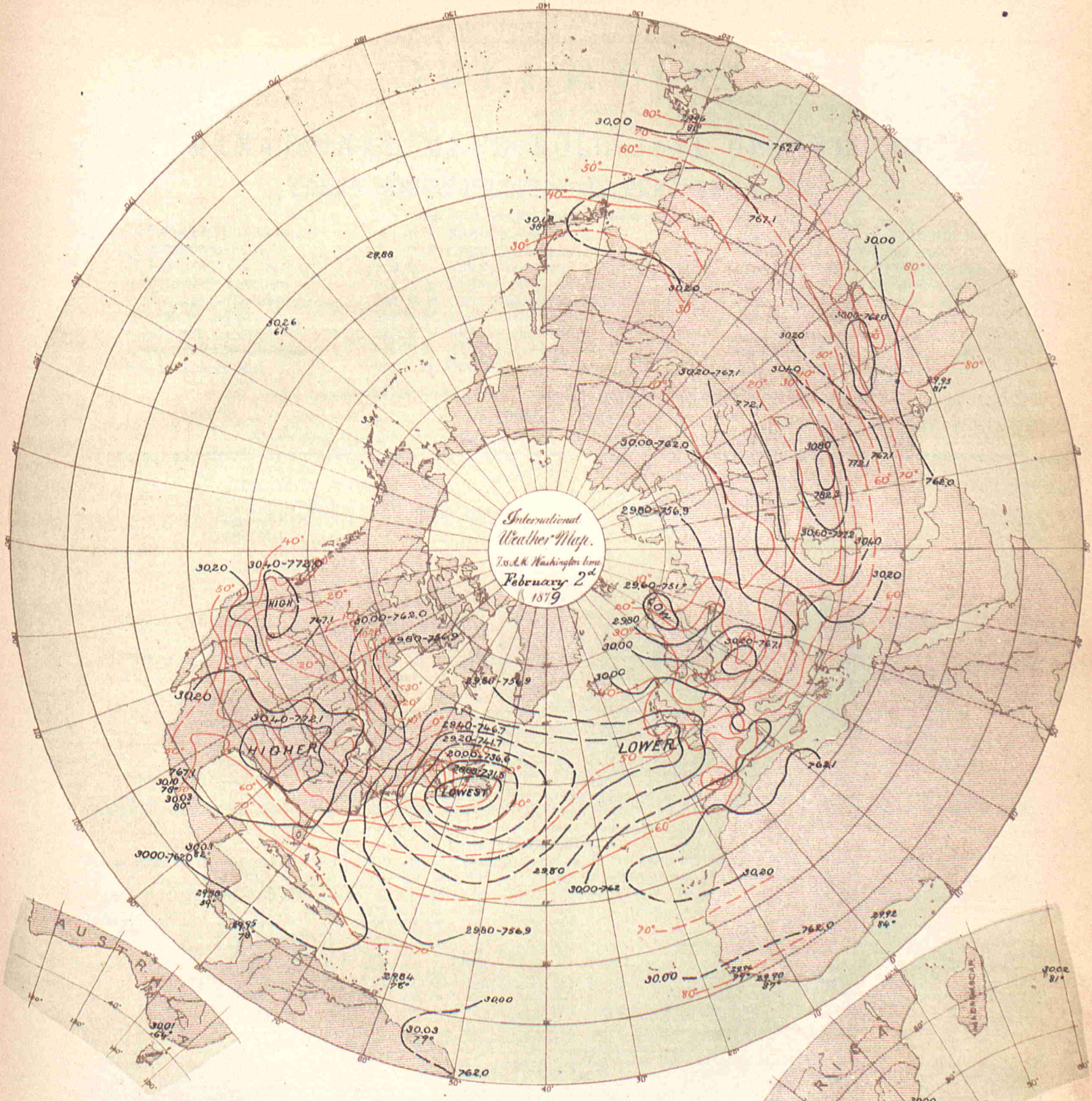
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 3, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.28	769.0	61.3	16.3	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.18	765.8	64.0	17.8	80	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.02	762.6	65.5	18.6	53	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	30.08	764.1	65.8	18.8	81	E	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.09	764.3	66.4	19.1	61	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.16	766.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.07	763.7	68.9	20.5	16	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.16	766.0	62.4	16.9	25	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.05	763.3	59.2	15.1	96	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Brugnlaux.
Laghouat	.....	.....	30.16	766.1	63.7	17.6	45	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.06	763.4	68.2	20.1	50	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	747.0	29.98	761.5	36.9	2.7	80	NE	.....	.....	2	.....	7	.....	.....	0.067	1.7	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.20	741.7	30.04	763.1	7.7	—13.5	92	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.11	739.3	30.04	763.0	25.9	— 3.4	89	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.67	728.3	29.98	761.4	32.9	0.5	89	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.60	726.5	30.11	764.7	31.3	— 0.4	100	E	.....	.....	0	.....	1	.....	.....	0.120	3.05	.....	Prof. A. Gottschling.
Kremsmünster	28.46	722.6	29.85	758.2	29.5	— 1.4	96	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.86	733.6	30.03	762.8	15.6	— 9.1	96	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.84	757.9	29.95	760.8	50.7	10.4	85	W	.....	.....	2	.....	9	.....	.....	0.528	13.4	.....	I.R.Hydrographic Office.
Szathmar	29.65	753.0	30.14	765.5	30.6	— 0.8	92	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.75	755.6	30.04	763.1	30.6	— 0.8	90	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.89	759.2	29.99	761.8	48.4	9.1	86	Calm	.....	.....	0	.....	10	.....	.....	0.961	24.4	Rain & fog	P. Busin.
Vienna	29.22	742.3	29.98	761.4	27.9	— 2.3	96	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Ob's'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 348.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.82	757.4	29.93	760.2	35.9	2.2	.....	ENE	12	5.4	.....	.....	9	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	29.79	756.7	29.81	757.2	37	2.8	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Misty.	William McNeil.
Armagh, Observatory	.....	.....	29.76	755.9	37.9	3.3	.....	ENE	17	7.6	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.72	754.9	36.4	2.4	.....	ENE	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton, (Sharples)	.....	.....	29.74	755.4	34.4	1.3	.....	ENE	12	5.4	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	29.36	745.7	29.76	755.9	34.9	1.6	.....	E	.....	.....	3	.....	10	.....	.....	0.10	2.5	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	81	27.2	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.63	752.6	35.9	2.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [O.
Cardington	.....	.....	29.68	753.9	35.0	1.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog	John McLaren.
Chatham, School M. E.	29.44	747.8	29.67	751.1	37.2	2.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Corpl. Daly, R. E.
Dartmoor	28.11	714.0	29.60	751.8	38.0	3.3	.....	SE	.....	.....	3	.....	9	.....	.....	.....	.....	Raining	Alexander Watt.
Donaghadee	29.74	755.4	29.79	756.7	39	3.9	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.51	749.5	29.53	750.0	40	4.4	.....	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	Rain & fog	J. Costello.
Falmouth, Observatory	29.32	744.7	29.56	750.8	48.0	8.9	.....	NNE?	.....	.....	0?	.....	9	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.67	702.8	29.99	761.7	76.0	24.4	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.74	755.4	29.97	761.2	86	30.0	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.65	753.1	39	3.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.04	763.0	30.10	764.5	62.9	17.2	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.64	752.8	29.85	758.2	35.0	1.7	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.67	753.6	36	1.7	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	29.40	746.7	29.58	751.3	37.4	3.0	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy
Guernsey	29.27	743.4	29.49	749.0	45.5	7.5	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Dr. S. E. Hoskins, F.R.S.
Helston	29.50	749.3	29.62	752.3	50	10.0	.....	N	.....	.....	2	.....	10k	.....	.....	0.3	8.	Misty	M. P. Moyle.
Holyhead	29.64	752.8	29.69	754.1	38	3.3	.....	E	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.19	741.4	29.48	748.8	47.0	8.3	.....	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew, Observatory	29.54	750.3	29.58	751.3	38.2	3.4	.....	NE	7	3.1	.....	.....	10	.....	.....	.....	.....	Drizzling	The Meteorological Of.
Leicester, Museum	29.42	747.2	29.69	754.1	34.7	1.5	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.06	763.5	30.14	765.5	62	16.7	.....	SW	.....	.....	1	.....	2k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.83	757.7	29.92	760.0	35	1.7	.....	ESE	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.19	766.8	62.5	16.9	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.52	749.8	29.71	754.6	34.2	1.2	.....	NE	.....	.....	3	.....	10	.....	.....	0.053	1.35	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.14	740.1	29.68	753.9	33.2	0.7	.....	NNE	.....	.....	3–4	.....	10	.....	.....	.....	.....	Foggy	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.61	752.1	35	1.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	H. E. Bellamy.
Plymouth	29.46	748.3	29.53	750.0	47.0	8.3	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.57	751.1	29.61	752.1	45	7.2	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.42	747.2	29.59	751.6	43	6.1	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.87	758.7	35.5	1.9	.....	NE	4	1.8	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.09	764.3	43.6	6.4	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	W. H. Lyne.
Sheffield	29.51	749.5	29.80	756.9	34.4	1.3	.....	NNE	.....	.....	1	.....	10	.....	.....	0.10	2.5	Misty	W. F. Cooper.
Silloth Rectory	29.75	755.6	29.78	756.4	36.7	2.6	94	E	.....	.....	3	.....	5	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	29.33	745.0	29.73	755.1	36.0	2.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield Turgiss	29.36	745.7	29.58	751.3	37.8	3.2	.....	NE	.....	.....	2–3	.....	10	.....	.....	.....	.....	Foggy	C.H. Griffith, F.M.S.
Thurso	29.89	759.2	29.95	760.7	38	3.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.55	750.6	51	10.6	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.61	752.1	29.64	752.8	47.0	8.3	.....	N	6	2.7	.....	.....	10	.....	.....	.....	.....	Misty	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.89	759.2	35.2	1.8	.....	E	.....	.....	2	.....	10s	.....	.....	0.01	0.3	Overcast	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.93	760.2	80.4	26.9	62	ENE	13.5	6.0	.....	4	4	.....	NNE	0.10	2.54	Cloudy	C. Meldrum.
Melbourne, Observatory	29.85	758.2	29.94	760.5	71.0	21.7	69	WSW	4	1.8	.....	.....	4	.....	.....	0	0	Hazy	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.89	759.2	38	3.3	.....	E	.....	.....	4	3	5	E	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.96	761.0	32	0.0	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
H. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the cooperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.29	667.8	30.01	762.2	64.4	18.0	82	SE	.....	.....	3	2ck.	6ks	.....	.....	0	0	Very cloudy	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.76	756.0	29.81	757.2	25.7	— 3.5	87	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Faröe	29.79	756.7	29.81	757.2	20.1	— 6.6	95	E	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.60	749.4	29.55	750.5	27.7	— 2.4	77	NE	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.09	764.2	30.12	765.1	28.9	— 1.7	62	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.59	751.6	29.76	755.9	22.3	— 5.4	85	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.02	737.0	29.57	751.0	50.4	10.2	97	SW	.....	.....	1	.....	5	.....	S	0.283	7.2	Cloudy	Colignon, Director.
Amiens, Normal School	29.40	746.8	29.52	749.8	38.1	3.4	89	ENE	.....	.....	1	.....	10	.....	.....	0.520	13.2	Covered	Bonvallet, Director.
Avignon, Normal School	29.83	757.7	29.91	759.7	48.2	9	92	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	M. Giraud, Director.
Bar-sur-Seine	29.07	738.3	29.63	752.6	51.4	10.8	82	SW	.....	.....	1	.....	10	.....	SW	0.138	3.5	Covered	C. Saillard, Director.
Beauvais, Normal School	29.26	743.1	29.54	750.3	46.0	7.8	89	SE	.....	.....	1	.....	10	.....	W	0.307	7.80	Covered	Frec. Eugene Marie, Dir.
Besançon, Normal School	28.86	733.0	29.76	755.8	45.7	8.6	85	S	.....	.....	1	.....	10	.....	SW	0.098	2.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.99	736.4	29.90	759.4	45.3	7.4	85	SE	.....	.....	3	.....	n	S	SE	0.24	6.	.....	M. Mariot, Director.
Bourges, Normal School	29.08	738.7	29.63	752.7	51.4	10.8	93	SW	.....	.....	4	.....	5	SW	SW	0.31	8.	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.23	742.5	29.47	748.6	54.7	12.6	90	SW	.....	.....	2	.....	9	.....	SW	0.316	8.00	Foggy	M.de Rermaur, Director
Carcassonne, Normal School	29.45	748.0	29.87	758.7	50.4	10.2	92	NE	.....	.....	1	.....	5	E	E	0.010	0.25	Cloudy	September, Director.
Caen, Normal School	29.39	746.6	29.47	748.6	54.3	12.4	83	SSW	.....	.....	2	.....	10	.....	NNE	0.322	8.20	Covered	M. Lair, Director.
Chartres, Normal School	28.96	735.5	29.52	749.8	50.4	10.2	84	SSW	.....	.....	1	.....	9	.....	E	0.266	6.5	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.27	743.5	29.59	751.6	49.1	9.5	95	S	.....	.....	4	.....	10	S	S	.....	.....	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.38	720.7	29.72	754.8	54.0	12.2	59	S	.....	.....	1	.....	10	.....	SW	0.063	1.6	Covered	Alluard, Director.
Commercy, Normal School	28.73	729.8	29.62	752.3	45.3	7.4	97	SW	.....	.....	2	.....	10	.....	SW	0.142	3.6	Covered	Dr. Coulet, Director.
Commune de Grèsque*	28.80	731.4	29.94	760.4	48.7	9.3	92	E	.....	.....	2	.....	10	.....	ESE	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	29.18	741.2	29.97	761.2	43.2	6.2	97	ENE	.....	.....	1	.....	10n	.....	.....	0.252	6.40	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.44	747.8	29.65	753.2	55.0	12.8	86	W	.....	.....	3	.....	8	.....	W	0.496	12.6	Very cloudy	Monillot, Director.
Le Mans, Normal School	29.27	743.5	29.58	751.2	51.6	10.9	93	W	.....	.....	3	.....	8	.....	WSW	0.248	6.3	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baudry, Director.
Lorient, Naval Observatory	29.47	748.5	29.57	751.0	52.9	11.6	93	SW	.....	.....	3	.....	.....	.....	W	SW	0.248	6.3	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Galzin, Director
Mirecourt, Normal School	28.62	726.9	29.68	753.8	42.8	6	94	NNE	.....	.....	3	.....	n	.....	SSW	0.098	2.5	Raining	M. Barbier, Director.
Nismes, Normal School	29.55	750.5	29.76	755.7	54.3	12.4	74	NE	.....	.....	1	.....	10	.....	NW	0.08	2.	Covered	Boyer, Director.
Privas, Normal School	28.83	732.3	29.91	759.7	46.0	7.8	89	S	.....	.....	1	.....	10	S	S	.....	.....	Light rain	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.85	631.2	.....	.....	36.1	2.3	100	SW	.....	.....	8	.....	10	.....	.....	0.075	1.9	Fog and rain	Alluard, Director.
Rochefort, Naval Obs'y	29.69	754.1	29.72	754.9	53.1	11.7	98	SW	.....	.....	1	.....	10	WSW	WSW	0.43	11.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.41	747.0	29.49	749.1	48.2	9.0	90	ESE	.....	.....	1	.....	8	.....	SW	0.339	8.6	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.45	748.1	29.48	748.9	52.5	11.4	86	SW	.....	.....	3	.....	2	SW	SW	0.226	5.75	Light clouds	Lt. Hercouet, Director
Saint Maur, (near Paris)	29.37	746.0	29.54	750.2	50.0	10.0	88	SW	.....	.....	1	.....	10	.....	W	0.161	4.1	Covered	E. Renou, Director.
Tarbes, Normal School	28.73	729.8	29.52	757.3	50.0	10	62	W	.....	.....	1	.....	10	.....	.....	0.28	7.	Raining	T. Huguet, Director.
Versailles Observatory	29.03	737.4	29.62	749.9	50.4	10.2	.....	SW	.....	.....	1	.....	9	.....	.....	0.199	5.06	Almost cov'd	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.22	742.2	29.95	760.7	45.5	7.5	85	SE	.....	.....	2	.....	10	.....	SE	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.6	30.05	763.3	77.4	25.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.98	25.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.81	757.1	47.7	8.7	88	S	.....	.....	3	.....	10	.....	.....	0.559	14.2	Raining	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.67	626.6	29.98	761.6	38.3	3.5	86	SW	.....	.....	6	.....	10	.....	.....	0.020	0.5	.....	M. Cave.
Nice	.....	.....	29.97	761.3	52.2	11.2	85	E	.....	.....	1	.....	10	.....	.....	.....	.....	Light rain	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.28	743.1	.....	.....	49.1	9.5	95	S	.....	.....	2	.....	8	.....	SW	0.185	4.7	.....	Marié Davy, Director.
Perpignan	29.76	756.0	29.87	758.7	49.3	9.6	87	NE	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.33	567.2	.....	.....	35.6	2.0	.....	SW	.....	.....	3	.....	10	.....	.....	0.283	7.2	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.12	739.7	29.84	758.0	52.2	11.2	85	SSE	.....	.....	3	.....	8	.....	.....	0.106	2.7	Rainy	M. Mercadier Juller.
Tours	29.40	746.8	29.60	751.8	53.6	12.0	87	SSW	.....	.....	2	.....	7	.....	W	0.331	8.4	¾ covered	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.32	770.2	30.35	770.8	36.7	2.6	91	ESE	4.9	2.2	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,63 p. m. local time. The elevation of Clermont-Ferrand is 385 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.93	734.8	29.76	756.0	34.7	1.5	80	SE			5		9	SE				Snowing	Prof. Dr. Hoh.
Berlin	29.64	752.9	29.83	757.6	24.8	— 4.0	81	E			1		7			0	0		Prof. Arndt.
Breslau	29.34	745.1	29.86	758.5	32.5	0.3	81	S			1		5			0	0		Royal University Obs'y
Carlsruhe	29.32	744.6	29.75	755.7	37.4	3.0	97	SE			1		10	SW		0.969	24.6	Rain and fog	Albert Senx.
Cassel	29.13	740.0	29.74	755.3	36.0	2.2	87	S			1		10	S		0	0		Dr. H. Möhl.
Crefeld	29.48	748.7	29.64	752.8	40.6	4.8	80	SE			2		9			0	0		Director Lose.
Emden					26.4	— 3.1	85	E			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.36	745.8	29.74	755.3	36.5	2.5		ENE			1		10			0	0		Physical Society.
Friedrichshafen	28.35	720.2	29.74	755.5	37.0	2.8	79	S			2		10			0.394	10.0	Raining	M. Wilhelm.
Hamburg	29.72	755.0	29.80	756.9	21.7	— 5.7	98	E			1		10			0	0	Foggy	Captain F. Hegemann
Kiel	29.78	756.4	29.80	756.8	24.8	— 4.0	89	NE			1		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.80	756.9	29.89	759.2	18.0	— 7.8	69	SW			3		2			0	0		Prof. E. Luther.
Köslin			29.82	757.4	15 8	— 9.0		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.37	746.0	29.80	757.0	36.0	2.2	79	S			2		9	SW		0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.80	757.0	29.85	758.2	23.9	— 4.5	88	SW			3		10n						Skalweit.
Neufahrwasser	29.86	758.4	29.87	758.8	11.8	—11.2	71	SSE			2		0			0	0		A. Lothes.
Posen	29.60	751.9	29.91	759.7	22.3	— 5.4	75	SE			2		2			0	0		Dr. Magener.
Strassburg (in Alsace)	29.18	741.2	29.75	755.6	35.1	1.7	100	SE			2		10			0	0		Imp. University Observatory.
Stuttgart	28.78	731.1	29.70	754.4	37.8	3.2	80	W			1		10			0.287	7.3	Raining	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.26	717.8	29.82	757.4	33.4	0.8	82	S	1.1	0.5			10			0.004	0.1		Dr. Van Bebber.
Wustrow, Naval School	29.81	757.1	29.83	757.7	17.1	— 8.3	100	ESE			1		10			0	0	Foggy	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.69	754.2	30.09	764.2	58.1	14.5		S			0.5							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	29.96	761.0	30.01	762.3	78.4	25.8	33	NE	22	9.8			2			0	0	D. clouds	
Deesa	29.46	748.3	29.94	760.4	82.1	27.8	31	N	7.3	3.3			0			0	0	Blue sky	
Bombay	29.90	759.4	29.94	760.3	77.5	25.3	75	NW	15	6.7			6	W		0	0	D. clouds	
Poonah	27.90	708.6	29.89	759.2	82.6	28.1		ENE					1	NE		0	0	Blue sky	
Lahore	29.30	744.1	30.06	763.6	69.2	20.7	31	Calm	1.7	0.8			10			0	0	D. clouds	
Belgaum	27.42	696.5	29.95	760.7	79.8	26.6	40	Calm					5			0	0	D. clouds	
Roorkee	29.07	738.4	29.99	761.6	69.8	21.0	28	NW	2	0.9						0	0	Blue sky	
Agra	29.43	747.5	30.01	762.2	72.3	22.4	41	W								0	0		
Nagpur	28.92	734.6	29.96	761.0	83.6	28.7	31	Calm	1.9	0.8						0	0	Blue sky	
Lucknow	29.60	752.0	29.98	761.6	74.3	23.5	40	WNW	0.9	0.4						0	0	Blue sky	
Allahabad	29.69	754.2	30.01	762.3	70.3	21.3	42	Calm	1.4	0.6			0			0	0	Blue sky	
Patna	29.81	757.1	29.99	761.8	74.1	23.4	49	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.96	710.0	30.02	762.5	67.3	19.6	28	WNW	6.8	3.0			0			0	0	Blue sky	
Cuttack	29.93	760.3	30.02	762.4	74.8	23.8	54	NNE	1.1	0.5			0			0	0	Blue sky	
Calcutta (Alipore)	30.00	761.9	30.02	762.4	66.6	19.2	55	WNW	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.60	751.7	30.00	761.9	70.8	21.6	32	N	1.7	0.8			1			0	0	Blue sky	
Chittagong	29.99	761.6	30.08	764.0	70.8	21.6	75	Calm	5.6	2.5			0			0	0	D. clouds	
Sibsagar	29.70	754.3	30.05	763.2	63.5	17.5	69	ENE	1.9	0.8			4			0	0		
Jubbulpore	28.64	727.3	30.01	762.3	78.7	25.9	25	NE	1.1	0.5			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 512.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.56	750.9	29.98	761.6	45.7	7.6	69	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.87	758.6	29.98	761.4	46.4	8.0	71	W	1.3	0.6	.....	.....	10	N	.....	0.039	1.0	.....	Prof. Dott. Lorenzoni
Milan	29.48	747.6	29.97	761.2	43.3	6.3	86	SSW	.....	.....	1	.....	10	.....	.....	0.063	1.6	.....	Prof. Schiaparelli.
Moncalieri	29.66	753.1	29.99	761.8	42.6	5.9	85	SE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.01	711.5	29.96	761.0	41.0	5.0	76	NE	.....	.....	2	.....	8	SE	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.76	755.9	30.31	769.9	45.0	7.2	91	N	2.5	1.1	.....	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.71	754.7	29.98	761.4	50.0	10.0	94	W	.....	.....	2	.....	10	.....	.....	0.576	14.6	.....	Cav. F Meucci
Leghorn	29.85	758.1	29.98	760.3	53.1	11.7	94	ENE	2.5	1.1	.....	.....	10	S	.....	0.157	4.0	.....	Prof. P. Monte.
Pesaro	29.93	760.3	29.98	761.5	45.0	7.2	88	NE	6.9	3.1	.....	.....	10	.....	.....	0.220	5.6	.....	Prof. Luigi Guidi.
Rome	29.84	757.8	30.01	762.3	55.0	12.8	85	S	6.3	2.8	.....	.....	10	.....	.....	0.039	1.0	.....	Prof. P. S. Ferrari.
Lecce	29.77	756.2	30.03	762.7	58.1	14.5	63	W	5.6	2.5	.....	.....	7	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.80	756.8	29.99	761.7	61.5	16.4	70	SE	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	740.9	30.07	763.7	53.2	11.8	75	SE	1.8	0.8	.....	.....	10	.....	.....	0.228	5.8	.....	Prof. D. Conti.
Palermo	29.81	757.2	30.07	763.7	63.3	17.4	58	WSW	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.02	762.4	30.09	764.2	59.9	15.5	75	NNE	2.5	1.1	.....	.....	5	NW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.48	748.9	30.04	763.0	57.2	14.0	81	SW	3.1	1.4	.....	.....	8	.....	.....	0.256	6.5	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.20	767.1	30.22	767.6	39.1	3.9	83	NE	8.0	3.6	.....	.....	0	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.27	768.8	40.7	4.8	90	Calm	0	0	.....	.....	0	.....	.....	0	0	Very clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.06	763.5	30.14	765.5	37.8	3.2	73	NNW	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	8cs	0	.....	.....	0	0	Misty	P. Ceballos.
Guadalajara	25.12	638.0	30.26	768.6	47.3	8.5	59	SW	.....	.....	3	3c	0	SW	.....	0	0	Clear	Prof. L. Perez.
Leon	24.50	622.3	30.16	766.2	53.4	11.9	80	SSE	.....	.....	3	2c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.6	30.29	769.3	46.4	8.0	76	Calm	0	0	.....	5cs	0	SW	.....	0	0	½ clouded	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	50.0	10.0	80	SW	.....	.....	1	0	10	.....	NW	0.244	6.2	Raining	M. V. de Leon, M. E.
Tlacotalpam	30.10	766.9	30.20	767.2	64.6	18.1	94	WNW	.....	.....	2	.....	10	.....	E	0	0	Covered	M. M. Cházaro.
San Luis Potosi	24.26	616.7	30.27	768.9	47.0	8.3	28	NE	.....	.....	.....	.....	10	.....	.....	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.22	767.5	30.25	768 2	69.8	21.0	73	NW	11.6	5.2	.....	.....	10sk	.....	.....	0	0	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.37	593.5	30.12	765.0	42.3	5.7	74	N	0	0	.....	.....	2	.....	Calm	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.43	722.1	30.10	764.4	72.9	22.7	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.10	764.6	30.24	768.0	67	19.4	.....	NW	.....	.....	2	6n	8n	N	N	0.079	2.0	Cloudy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.3	29.85	758.3	32.7	0.4	.....	ESE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	29.71	754.6	29.76	756.0	27.3	— 2.6	.....	E	.....	.....	2	.....	.....	.....	.....	0.012	0.3	.....	
Helder	29.70	754.3	29.70	754.3	28.4	— 2.0	.....	NE	.....	.....	4	.....	.....	.....	.....	0.083	2.1	.....	
Hellevoetsluis	29.65	753.0	29.65	753.0	36.5	2.5	99	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.62	752.4	29.67	753.6	38.5	3.6	95	E	.....	.....	2	.....	10	.....	.....	0.012	0.3	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.78	756.4	29.84	757.8	33.4	0.8	82	N	10.3	4.6	.....	.....	8	.....	.....	0.075	1.9	.....	
Brönö	29.65	753.1	29.69	754.1	24.8	— 4.0	73	N	36	16	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.61	752.2	29.77	756.2	22.8	— 5.1	85	E	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.49	749.0	29.53	750.1	17.6	— 8.0	71	Calm	0	0	.....	.....	10	.....	.....	0.205	5.2	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.07	763.7	30.26	768.6	56.5	13.6	82	W	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.7	30.04	763.1	54.3	12.4	83	SW	8.1	3.6	.....	.....	8	SW	.....	0.150	3.8	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.18	766.5	30.26	768.7	68.0	20.0	64	WSW	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.66	753.3	30.02	762.5	57.7	14.3	77	SW	19.9	8.9	.....	.....	9	WSW	.....	0.220	5.6	.....	The Staff.
Ponta Delgada, (Azores)	30.26	768.7	30.34	770.5	61.5	16.4	58	SW	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	1	WSW	D. Clouds ...	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa. Bissao, N. 11° 51′, W. 15° 37	1	.....	Blue sky.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	1	.....	Blue sky.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	0	.....	Blue sky.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.49	749.0	29.95	760.7	13.8	—10.1	76	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.49	749.1	29.94	760.4	20.7	— 6.3	87	SW	2	1	.....	.....	9	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.38	746.3	29.63	752.7	24.8	— 4.0	89	WSW	13	6	.....	.....	10n	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	29.37	746.0	29.39	746.4	25.7	— 3.5	93	SW	18	8	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Central Physical Obs.
Kieff	29.37	745.9	30.06	763.4	15.1	— 9.4	75	NW	7	3	.....	.....	2c;ks; ck].	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.06	763 5	30.13	765.3	16.2	— 8.8	78	NNW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.99	761.7	30.01	762.2	33.4	0.8	100	NW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Lagorio.
Moscow	29.28	743.6	29.87	758.6	15.8	— 9.0	85	SSW	9	4	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.67	753.5	29.88	758.9	32.7	0.4	94	NW	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.39	746.6	29.41	747.1	2.8	—16.2	83	SSE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.74	730.1	30.27	768.9	22.6	— 5.2	93	N	4	2	.....	.....	7cs	.....	.....	.....	.....	Light clouds	Physical Observatory
Astrakhan	30.16	766.0	30.08	763.9	37.4	3.0	87	SSE	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.34	745.1	29.84	757.9	20.1	— 6.6	86	S	9	4	.....	.....	10	.....	.....	.....	.....	Light snow..	Cand. Fatjanow.
Kasan	29.49	749.0	29.78	756.4	16.3	— 8.7	84	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.91	734.4	29.95	760.8	11.5	—11.7	69	S	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tashkend	28.78	730.9	30.62	777.7	25.2	— 3.8	93	N	18	8	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.95	760.7	30.50	774.7	10.9	—11.7	87	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.10	764.6	30.42	772.7	7.7	—13.5	80	W	7	3	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.15	765.7	30.29	769.3	32.7	0.4	49	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660 ? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.78	756.5	29.89	759.2	60.8	16	61	WSW	2.4	1.06	.....	.....	4ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.75	755.7	29.81	757.2	58.5	14.7	81	NW	7.1	3.18	.....	.....	10	.....	.....	0.075	1.9	Rainy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.92	683.7	.....	.....	46.0	7.8	95	SW	17.6	7.87	.....	.....	9	.....	.....	0.197	5.0	Raining.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.7	.....	.....	49 1	9.5	85	SW	16.4	7.33	.....	0	10	.....	.....	Inap.	Inap.	Covered.....	The Staff.
Murcia, Met. Obs'y	29.88	758.9	30.03	762.7	64.8	18.2	64	E	2.0	0.89	.....	.....	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.89	732.8	29.73	755.1	52.0	11.1	88	S	19.2	8.6	.....	.....	10	.....	.....	1.083	27.5	Raining.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.9	29.97	761 2	81.0	27.2	73	NE	2.2	1.0	.....	.....	1c	.....	E	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.03	762.8	30.13	765.3	62.1	16.7	73	SW	10.1	4.5	.....	5	5	SW	S	0.044	1.1	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.02	762.4	30.11	764.7	69.8	21.0	91	SW	0	0	.....	6s	2k	SW	SW	0	0	Cloudy.....	Leonardo de Tejeda, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Haparanda	29.51	749.5	29.55	750.5	— 6.5	—21.4	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	29.54	750.4	29.60	751.7	11.1	—11.6	85	NW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.57	751.0	29.62	752.3	23.0	— 5.0	66	N	.....	.....	2	.....	0	.....	.....	0.043	1.1	Snowing..	
Stockholm	29.50	749.2	29.67	753.7	24.6	— 4.1	94	W	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	29.69	754.2	29.75	755.7	26.2	— 3.2	78	NW	.....	.....	6	.....	10	.....	.....	0.071	1.8	.....	
Sub-Series.																			
Upsala	29.56	750.9	29.64	752.8	23.9	— 4.5	86	WNW	1.6	0.7	.....	.....	2	.....	.....	0.001	0.02	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.40	721.3	29.87	758.6	40.8	4.9	100	NW	.....	.....	1	.....	10	.....	.....	0.059	1.5	Raining	The Observatory.
Zurich	28.18	715.8	29.88	758.9	36.7	2.6	93	SE	.....	.....	2	.....	10	.....	.....	0.772	19.6	Raining.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.7 mm.; Thermometer, +2.4 ent.; Relative Humidity, +25 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.14	765.6	41.9	5.5	73	NE	10	4.5	.....	.....	10	.....	N	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	30.06	763.5	59.4	15.2	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered.. ...	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.11	764.8	30.23	767.8	64.9	18.3	55	W	.....	.....	1	.....	1ks	.....	W	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.16	740.7	29.23	742.4	30.7	— 0.7	67	NW	5	2.2	.....	2c	0	.....	.....	0	0	Fair.....	Hon. J. Ferguson.
Brockville, Ontario	29.54	750.8	29.56	758.4	20	— 6.7	.....	Calm	0	0	.....	.....	5s	.....	W	0.08	2.0	Fair...	W. R. Bigg.
*Chatham, N B	29.19	741.4	29.25	742.9	27	— 2.8	82	SW	2	0.9	.....	10ck	0	SW	.....	0.05	1.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.14	740.1	29.18	741.2	28	— 2.2	84	W	8	3.6	.....	.....	8ks	.....	Calm	0	0	Clearing.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.80	756.9	17.5	— 8.1	92	NW	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	H. A. Johnson.
Esquimault, B. C	30.20	767.1	30.25	768.3	32.0	0.0	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.	W. H. Bevis.
*Father Point, Quebec	29.37	746.0	29.39	746.5	26	— 3.3	79	W	20	8.9	.....	8k	2s	NW	W	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.31	744.5	29.38	746.2	28.9	— 1.7	65	NW	12	5.4	.....	0	d	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.20	741.7	30.14	765.5	— 6	—21.1	97	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	28.76	730.5	29.95	760.7	17	— 8.3	.....	Calm	.....	.....	0	3cs	0	.....	.....	Inap.	Inap.	Fair.....	James Grant.
*Halifax, N. S	29.12	739.6	29.26	743.2	26	— 3.3	92	W	10	4.5	.....	0	0	.....	.....	0.040	1.02	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.60	751.8	29.99	761.7	25.7	— 3.5	84	SW	.....	.....	1	10cs	0	SW	.....	0	0	Overcast.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	E. Weedon.
*Kingston, Ontario	29.50	749.3	29.56	758.4	20	— 6.7	95	W	7	3.1	.....	10cs	0	Calm	.....	Inap.	Inap.	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	28.98	736.1	29.02	737.1	22.2	— 5.4	92	NW	6	2.7	.....	4k	0	NW	.....	0.05	1.3	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	J. R. Nason.
*Montreal, Quebec	29.50	749.3	29.71	754.6	18	— 7.8	84	W	22	9.8	.....	2c	2s	.....	.....	0.16	2.5	Fair.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.16	740.7	29.90	759.4	18	— 7.8	84	NW	1	0.4	.....	2k	2ks	NW	NW	Inap.	Inap.	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.01	736.8	29.82	757.4	23.4	— 4.8	97	Calm	.....	.....	.....	.....	10n	.....	.....	.....	.....	Snowing.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.24	742.7	29.97	761.2	24	— 4.4	87	SW	7	3.1	.....	10k	0	SW	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	29.05	737.9	29.10	739.1	24.7	— 4.1	.....	NW	7	3.1	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.29	744.0	29.98	761.5	24	— 4.4	86	W	8	3.6	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy.....	M. Payne.
*Quebec, Quebec	29.20	741.7	29.63	750.0	26	— 3.3	88	NW	.....	.....	6	.....	10n	.....	NW	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.39	746.6	29.88	758.9	17	— 8.3	76	NW	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy.	W. H. McIntyre.
St. Andrews, N. B	30.48	774.2	30.63	775.4	16	— 8.9	73	NW	.....	.....	1	5k	2ks	NW	.....	0	0	Fair...	Dr. Gove.
St. John, N. B	29.21	741.9	29.38	746.2	20	— 1.7	100	NW	18	8.8	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.15	740.4	29.90	759.4	23	— 5.0	95	S	6	2.7	.....	.....	8ks	.....	.....	Inap.	Inap.	Cloudy.....	K. Stewart.
Stayner, Ontario	29.07	738.4	29.89	759.2	25	— 3.9	88	Calm	0	0	.....	8k	0	NW	.....	0.25	6.3	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.59	726.2	29.95	760.7	18.6	— 7.4	92	W	3.0	1.3	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M. A.
*Sydney, C. B	28.98	736.1	29.02	737.1	27	— 2.8	75	NW	10	4.5	.....	2ck	2ks	.....	NW	0.13	3.3	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.54	750.3	29.94	760.5	26	— 3.3	88	W	7	3.1	.....	.....	10ks	.....	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.18	741.2	29.28	743.7	29.0	— 1.7	94	NW	10	4.5	.....	8k	0	.....	.....	0	0	Cloudy.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	100	SE	.....	.....	.....	10	n	.....	.....	0.05	1.3	Snowing.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch s.	Rain-fall or melted snow in the past 24 hours. Millim rs.	Weather.	Observer.
Albany, New York	29.56	750.8	29.60	756.9	25	— 3.9	75	NW	13	5.8	.....	2c	8s	NW	NW	0.02	0.5	Cloudy	
Alpena, Michigan	29.19	741.4	29.88	758.9	12	—11.1	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.04	737.6	30.26	768.6	27	— 2.8	65	NW	9	4.0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Atlantic City, New Jersey	29.95	760 7	29.97	761 2	29	— 1.7	78	W	12	5.4	.....	0	8s	.....	W	0	0	Cloudy	
Augusta, Georgia	30.04	763.0	30.23	767.8	31	— 0.6	58	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Baltimore, Maryland	29.97	761.2	30.02	762.5	29	— 1.7	78	W	4	1.8	.....	2ck	2s	NW	W	0	0	Fair	
Barnegat, New Jersey	29.88	758.9	29.91	759.7	29	— 1.7	78	NW	15	6.7	.....	8k	0	NW	.....	0	0	Fair	
Bismarck, Dakota	28.00	711.2	29.86	758.4	22	— 5.6	86	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.80	731.5	30.18	766.6	39	3.9	91	Calm	0	0	.....	.....	10s	.....	Calm	0.33	8.4	Cloudy	
Boise City, Idaho	27.21	691.1	30.17	766.3	13	—10.6	71	SW	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Boston, Massachusetts	29.52	749.8	29.68	763.9	22	— 5.6	65	NW	13	5.8	.....	1cs	0	NW	.....	Inap.	Inap.	Clear	
Brackettville, Texas	29.14	740.1	30.21	767.3	42	5.6	83	SE	12	5.4	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Breckenridge, Minnesota	28.96	735.6	30.06	763.5	4	—15.6	100	SE	4	1.8	.....	0	8s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.25	768.3	30.32	770.1	50	10.0	79	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.20	741.7	29.28	760.2	25	— 3.9	87	SW	8	3.6	.....	.....	10s	.....	SW	0.06	1.5	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	47	8.3	8	S	.....	.....	1	0	5s	.....	Calm	0	0	Fair	
Burlington, Vermont	29.46	748 3	29.76	755.9	22	— 5.6	72	Calm	0	0	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Cairo, Illinois	29.80	756.9	30.21	767.3	33	0.6	79	SW	8	3.6	.....	1c	0	Calm	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.31	642.9	30.11	764.8	41	5.0	82	Calm	0	0	.....	8ck	0	E	.....	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	30	— 1.1	86	W	.....	.....	1	5ck	5s	Calm	Calm	0	0	Cloudy	
Campo, California	27.32	693.9	29.89	759.2	44	6.7	92	Calm	0	0	.....	.....	10s	.....	E	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.12	765.0	30.12	765.0	32	0.0	69	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.03	762.8	30.05	763.3	31	— 0.6	69	W	4	1 8	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.15	765.8	30.16	766.1	30	— 1.1	78	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.96	761.0	29.99	761.7	28	— 2.2	67	W	32	14.3	.....	8ck	0	NW	.....	0	0	Fair	
Castroville, Texas	29.51	749.5	30.27	768.8	38	3.3	91	Calm	0	0	.....	.....	Fog	.....	.....	0.04	1.0	Foggy	
Charleston, South Carolina	30.20	767.1	30.27	768.8	32	0.0	69	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.82	605.0	29.76	755.9	35	1.7	61	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.26	743.2	29.98	761.5	31	— 0.6	89	NW	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	
Cincinnati, Ohio	29.39	746.5	30.07	763.8	31	— 0.6	74	SW	4	1.8	.....	.....	9s	.....	SW	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.25	742.9	30.01	762.2	23	— 5.0	73	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.36	720.3	30.10	764.6	36	2.2	90	SW	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.15	740.4	30.03	762.8	26	— 3.3	64	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Comanche, Texas	28.32	719.3	30.07	763.8	42	5.6	83	SW	8	3.6	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Corsicana, Texas	29.82	757.4	30.31	769.9	35	1.7	80	S	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Davenport, Iowa	29.42	747.2	30.10	764.5	23	— 5.0	73	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.04	636.0	.....	.....	32	0.0	79	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Decatur, Texas	29.04	737.6	30.28	769 1	34	1.1	96	S	8	3.6	.....	2c	0	W	.....	0	0	Clear	
Denison, Texas	29.43	747.5	30.26	768.6	38	3.3	81	SW	6	2.7	.....	2k	0	SW	.....	0	0	Fair	
Denver, Colorado	24.62	625.3	29.84	757.9	32	0.0	79	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.20	741.7	30.14	765.5	21	— 6.1	71	Calm	0	0	.....	0	2s	.....	NW	0	0	Fair	
Detroit, Michigan	29.21	741.9	29.91	759.7	23	— 5.0	86	SW	7	3.1	.....	.....	10n	.....	SW	0.05	1.3	Light snow	
Dodge City, Kansas	27.38	695.4	29.75	755.6	31	— 0.6	89	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.34	745.2	30.05	764.0	24	— 4.4	61	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.31	744.5	30.04	763.0	17	— 8.3	83	Calm	0	0	.....	.....	8s	.....	Calm	0.05	1.3	Cloudy	
Eagle Pass, Texas	29.53	750.0	30.31	769.9	43	6.1	83	NE	.....	.....	1	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Eastport, Maine	29.34	745.2	29.40	746.7	31	— 0.6	69	W	13	5.8	.....	0	0	.....	.....	0.10	2.5	Clear	
Edinburg, Texas	.....	.....	.....	.....	47	8.3	85	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	26.41	670.8	.....	.....	52	11.1	54	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Erie, Pennsylvania	29.23	742.4	29.98	761.5	24	— 4.4	87	S	4	1.8	.....	5c	0	Calm	.....	0.01	0.3	Fair	
Escanaba, Michigan	29.19	741.4	29.88	758.9	21	— 6.1	86	NW	5	2.2	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Florence, Arizona	28.50	723.9	30.10	764.5	56	13.3	63	Calm	0	0	2	5ck	0	E	.....	0	0	Fair	
Fort Buford, Dakota	.....	.....	.....	.....	24	— 4.4	87	SE	.....	.....	.....	.....	10n	.....	Calm	Blank	Blank	Heavy snow	
Fort Craig, New Mexico	25.69	652.5	29.76	755.9	35	1.7	90	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	37	2.8	90	SW	4	1.8	.....	.....	Fog	.....	.....	0.15	3.8	Dense fog	
Fort Gibson, Indian Ter	29.64	752.8	30.21	767.3	29	— 1.7	78	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.92	734.6	30.24	768.1	38	3.3	91	S	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Fort Keogh, Montana	27.14	689.3	.....	.....	27	— 2.8	88	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	28.01	711.4	30.02	762.5	40	4.4	56	SW	4	1.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.94	735.1	30.12	765.0	29	— 1.7	100	S	2	0.9	.....	.....	Fog	.....	.....	0	0	Dense fog	
Fort Stevenson, Dakota	28.02	711.7	.....	.....	20	— 6.7	85	SE	.....	.....	1	.....	10s	.....	W	0	0	Cloudy	
Fredericksburg, Texas	28.44	722.4	30.06	763.5	42	5.6	83	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Galveston, Texas	30.31	769.9	30.36	771.1	46	7.8	62	N	2	0.9	.....	5cs	0	Calm	.....	0.02	0.5	Fair	
Graham, Texas	29.11	739.4	30.22	767.6	30	— 1.1	89	S	2	0.9	.....	5cs	0	NW	.....	0	0	Fair	
Grand Haven, Michigan	29.20	741.7	29.87	758.7	31	— 0.6	79	NW	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.20	741.7	30.00	762.0	34	1.1	61	SW	5	2.2	.....	2c	2s	W	SW	0	0	Fair	
Indianola, Texas	30.33	770.4	30.36	771.1	46	7.8	92	NE	6	2.7	.....	.....	10s	.....	NW	0.14	3.6	Cloudy	
Jacksboro, Texas	29.03	737.3	30.23	767.8	32	0.0	89	W	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.28	769.1	30.30	769.6	37	2.8	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.46	748.3	30.11	764.8	27	— 2.8	76	N	4	1.8	.....	1c	0	W	.....	0	0	Clear	
Key West, Florida	30.22	767.6	30.26	768.6	57	13.9	63	NE	18	8.0	.....	1cs	2s	Calm	Calm	0	0	Fair	
Kittyhawk North Carolina	30.06	763.5	30.09	764.3	29	— 1.7	67	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.20	741.7	30.28	769.1	23	— 5.0	93	SW	1	0.4	.....	Haze	Fog	.....	.....	0	0	Foggy	
La Crosse, Wisconsin	29.29	744.0	30.07	763.8	25	— 3.9	87	NW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	36	2.2	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.90	759.4	30.26	768.6	44	6.7	84	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.24	742.7	30.13	765.3	27	— 2.8	76	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.70	754.4	30.05	763.3	51.0	10.6	82	N	11	4.9	.....	0	1s	.....	Calm	0.13	3.3	Clear	
Louisville, Kentucky	29.52	749.8	30.10	764.5	32	0.0	59	SW	8	3.6	.....	0	2s	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.88	746.2	30.10	764.5	28	— 2.2	67	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	28.97	735.8	30.00	762.0	27	— 2.8	76	NW	22	9.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Marquette, Michigan	29.11	739.4	29.84	757.9	26	— 3.3	75	NW	9	4.0	.....	.....	10s	.....	N	0.06	1.5	Cloudy	
Mason, Texas	28.60	726.4	29.43	772.9	41	5.0	91	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Memphis, Tennessee	29.92	760.0	30.26	768 6	33	0.6	69	SW	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Milwaukee, Wisconsin	29.19	741.4	29.95	760.7	26	— 3.3	75	NW	23	10.3	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.34	770.6	30.39	771.9	34.6	1.4	70	N	6	2.7	.....	5c	0	NW	.....	0	0	Fair	
Montgomery, Alabama	30.11	764.8	30.36	771.1	32	0.0	69	SW	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Morgantown, West Virginia	28.98	736.1	30.08	764.0	26	— 3.3	75	S	6	2.7	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Mt. Washington, N. H.	23.07	586.0	29.43	747.5	5	—15.0	100	NW	78	34.9	.....	.....	Fog	.....	NW	0.20	5.1	Foggy	
Nashville, Tennessee	29.66	753.4	30.24	768.1	28	— 2.2	77	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
New Haven, Connecticut	29.68	753.9	29.80	756.9	29	— 1.7	84	W	7	3.1	.....	5cs	0	Calm	.....	Inap.	Inap	Fair	
New London, Connecticut	29.71	754.6	29.76	755.9	28	— 2.2	71	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.30	769.6	30.36	771.1	44	6.7	52	N	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.67	753.6	29.72	754.9	25	— 3.9	75	W	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
New York, New York	29.68	753.9	29.86	758.4	32	0.0	79	NW	16	7.2	.....	0	8ks	.....	Calm	0	0	Fair	
Norfolk, Virginia	30.03	762.8	30.10	764.5	27	— 2.8	54	NW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.01	683.5	29.67	753.6	8	—13.3	78	W	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Olympia, Washington Ter.	30.22	767.6	30.20	768.6	34.1	1.2	90	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.90	734.0	30.05	763.3	27	— 2.8	76	W	2	0.9	.....	2k	2s	W	Calm	0	0	Fair	
Oswego, New York	29.56	750.8	29.89	759.2	30	—1.1	78	NW	16	7.2	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Pembina, Dakota	29.20	741.7	30.13	765.3	— 1	—18.3	100	NW	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Philadelphia, Pa	29.90	759.4	29.95	760.7	30	— 1.1	68	NW	21	9.4	.....	.....	10ks	.....	W	0	0	Cloudy	
Phœnix, Arizona	28.90	734.0	30.73	780.5	54	12.2	74	Calm	.....	.....	0	5k	0	SW	.....	Inap.	Inap.	Fair	
Pike's Peak, Colorado	17.58	446.5	29.79	756.7	7	—13.9	31	NW	48	21.5	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.03	610.4	29.80	756.9	21	— 6.1	71	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.21	741.9	30.06	763.5	24	— 4.4	87	SW	12	5.4	.....	5cs	2s	W	SW	Inap.	Inap	Fair	
Port Huron, Michigan	29.20	741.7	29.90	759.4	21	— 6.1	86	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.55	750.6	29.60	751.8	27	— 2.8	64	W	4	1.8	.....	5k	0	Calm	.....	Inap.	Inap.	Fair	
Portland, Oregon	30.23	767.8	30.33	770.4	36.0	2.2	90	S	4	1.8	.....	0	9s	.....	NW	0.01	0.3	Cloudy	
Prescott, Arizona	24.74	628.4	30.10	764.5	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.13	739.9	29.98	761.5	39	3.9	73	E	10	4.5	.....	8k	2s	SE	E	0	0	Cloudy	
Punta Rassa, Florida	30.29	769.4	30.31	769.9	48	8.9	36	N	12	5.4	.....	5ck	5s	W	Calm	0	0	Cloudy	
Red Bluff, California	29.70	754.4	30.07	763.8	40	4.4	82	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.18	766.6	30.41	772.4	49	9.4	78	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.29	744.0	29.92	760.0	27	— 2.8	86	W	15	6.7	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Roseburg, Oregon	29.72	754.9	30.32	770.1	30.0	— 1.1	94	Calm	0	0	.....	Haze	8s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.93	760.2	30.02	762.5	41	5.0	91	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.55	750.6	30.15	765.8	33	0.6	79	W	9	4.0	.....	1c	0	Calm	.....	0	0	Clear	
St. Marks, Florida	30.34	770.6	30.35	770.9	29	— 1.7	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.16	740.7	30.06	763.5	14	—10.0	82	SW	8	3.6	.....	8cs	0	Calm	.....	0.10	2.5	Fair	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	13	—10.6	62	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
San Antonio, Texas	29.62	752.3	30.23	767.8	40	4.4	100	Calm	0	0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
San Diego, California	29.95	760.7	30.02	762.5	53.5	11.9	93	NE	8	3.6	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Sandusky, Ohio	29.28	743.7	29.98	761.5	27	— 2.8	88	SW	12	5.4	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Sandy Hook, New Jersey	29.83	757.7	29.37	758.7	32	0.0	69	NW	24	10.7	.....	.....	10s	.....	NW	0	0	Cloudy	
San Francisco, California	29.94	760.5	30.00	762.0	46	7.8	84	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.28	591.3	29.82	757.4	24	— 4.4	61	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.16	766.1	30.26	768.6	36	2.2	53	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.10	764.5	30.34	770.6	35	1.7	80	Calm	0	0	.....	0	4s	.....	Calm	0	0	Fair	
Silver City, New Mexico	24.32	617.7	30.66	778.8	35	1.7	90	S	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.19	766.8	30.28	767.8	28	— 2.2	77	NW	5	2.2	.....	5c	0	W	.....	0	0	Fair	
Springfield, Massachusetts	29.63	752.6	29.76	755.9	29	— 1.7	67	NW	6	2.7	.....	9c	0	NW	.....	0	0	Cloudy	
Stockton, Texas	27.12	688.8	30.12	765.0	40	4.4	91	Calm	0	0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Thatcher's Island, Mass	29.59	751.6	29.65	753.1	29	— 1.7	56	NW	28	12.5	.....	1c	0	N	.....	Inap.	Inap.	Clear	
Toledo, Ohio,	29.22	742.2	29.93	760.2	28	— 2.2	88	SW	8	3.6	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Tucson, Arizona					53	11.7	60	SE	1	0.4	.....	2k	5s	S	S	0	0	Cloudy	
Tybee Island, Georgia	30.23	767.8	30.27	768.8	34	1.1	61	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.89	759.2	30.42	772.6	23.0	— 5.0	87	SE	8	3.6	.....	0	2s	.....	SE	0	0	Fair	
Unalashka, Aleutian Islands					28	— 2.2	77	S	.....	.....	1	0	0	.....	.....	0.20	5.1	Cloudy	
Uvalde, Texas	29.42	747.2	30.29	769.4	40	4.4	91	Calm	0	0	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy	
Vicksburg, Mississippi	30.12	765.0	30.39	771.9	33	0.6	84	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.09	611.9	29.57	751.1	25	— 3.9	62	SW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.65	753.1	30.04	763.0	37.5	3.1	70	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.92	760.0	30.04	763.0	28	— 2.2	77	W	6	2.7	.....	8c	0	NW	.....	0	0	Fair	
Wickenburg, Arizona					40	9.4	85	N	.....	.....	1	2c	8ks	SE	Calm	0	0	Cloudy	
Wilmington, N. Carolina	30.11	764.8	30.19	766.8	27	— 2.8	77	W	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	27	— 2.8	76	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.65	753.1	29.69	754.1	27	— 2.8	77	NW	20	8.9	.....	.....	10s	NW	.....	0	0	Cloudy	
Yankton, Dakota	28.70	729.0	30.05	763.3	25	— 3.9	75	E	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.86	758.2	30.02	762.5	60	10.0	79	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Sub-Series.																			
Fayetteville, Ark	28 59	726.2	30.07	763.8	33	0.6	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba, W. I	30.16	766.1	30.21	767.3	65	18.3	57	N	4.8	2.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	30.01	762.2	30.09	764.3	77	25.0	.....	NE	13.8	6.2	.....	.....	.....	.....	.....	0	0	Partly clo'dy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.05	763.3	77	25.0	91	E	.....	.....	2	.....	8ks	.....	.....	0.200	5.08	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gollich.
York Factory, B. A	29.29	744.0	29.35	745.5	—39.0	—39.4	.....	S	15	6.7	.....	.....	10n	.....	W	0.07	1.8	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft.. or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,822 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.33 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.83 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.96	761.0	44	6.7	42	5.6	74	ESE	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	36	2.2	81	NNW	5	2.2	.....	.....	2	.....	N	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.65	753.1	55	12.8	25	— 3.9	87	WNW	2	0.9	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.10‡	764.5‡	.....	.....	42	5.6	58	N	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Callao, Peru.....	29.97	761.2	71	21.7	70	21.1	95	SSE	.....	.....	1	.....	10	.....	S;E	.....	.....	.....	.....	Cloudy.....	
Alaska. N 16° 10′, W. 100° 01′.....	30.10	764.5	79	26.1	77	25.0	86	Calm	.....	.....	0	.....	0	.....	.....	0	0	Mod'ate	NW	Blue sky.....	
Alliance. N. 38° 36′, E. 25° 55′.....	30.09‡	764.3‡	.....	.....	59	15.0	65	SW	.....	.....	2–3	.....	10	.....	S;W	.....	.....	Smooth	.....	Threatening	
Ashuelot. N. 16° 07′, E. 108° 17′.....	30.10‡	764.5‡	.....	.....	69	20.6	85	NNW	.....	.....	2	.....	5	.....	N	.....	.....	Smooth	.....	Fair	
Canonicus. New Orleans, La.....	30.32	770.1	39	3.9	44	6.7	92	NW	.....	.....	2	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.....	29.80	756.9	33	0.6	32.0	0.0	100	NW	14	6.3	.....	.....	8	.....	SE	0	0	.....	.....	Overcast.....	
Constitution. N. 49° 17′, W. 11° 34′.....	29.68‡	753.9‡	.....	.....	53	11.7	93	NW	.....	.....	4	.....	10	.....	NW	.....	.....	Smooth	NW	Overcast.....	
Despatch. Constantinople, Turkey	30.15‡	765.8‡	.....	.....	44	6.7	76	NE	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Essex. Stanley, Falkland Isl'ds	29.37	746.0	65	18.3	54	12.2	93	W	.....	.....	3	.....	8	.....	W	.....	.....	.....	.....	Fair.....	
Franklin. Norfolk, Va.....	30.20	767.1	63	17.2	29	— 1.7	78	NW	4	1.8	.....	.....	2	.....	NNW	0	0	.....	.....	Clear.....	
Gettysburg. Genoa, Italy	29.90‡	759.4‡	.....	.....	50	10.0	86	N	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
Hartford. Montevideo, Uruguay....	29.90	759.4	78	25.6	79	26.1	70	E	4.0	1.8	.....	.....	2	.....	.....	0.15	3.8	Smooth	.....	Fair.....	
Lackawana. Panama.....*	29.77‡	756.1‡	.....	.....	77	25.0	100	W	.....	.....	1–2	.....	2	.....	.....	0	0	.....	.....	Cloudy	
Michigan. Erie, Pa.....	30.02†	762.5†	.....	.....	26	— 3.3	75	W	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Shanghai, China.....*	30.35‡	770.9‡	.....	.....	38	3.3	82	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Light haze...	
Monongehela. Yokohama, Japan ....*	30.09‡	764.3‡	.....	.....	36	2.2	100	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
New Hampshire. Port Royal, S. C.....	30.20	767.1	32	0.0	36	2.2	70	NW	12	5.4	.....	.....	8	.....	NW	0	0	.....	.....	Clear.....	
Onward. Callao, Peru.....	30.03†	762.8†	.....	.....	69	20.6	95	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos. Tientsin, China.....	30.21	767.3	36	2.2	30	— 1.1	78	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic. Washington, D. C.....	.....	.....	.....	.....	32	0.0	59	W	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy.....	
Pensacola. S. 7° 30′, W. 89° 30′.....	29 96‡	761.0‡	.....	.....	77	25.0	86	SE	9	4.0	.....	.....	5	.....	SE	0	0	Smooth	SE	Fair.....	
Powhatan. N. 31° 33′, W. 71° 50′.....	30.11	764.8	54	12.2	54	12.2	74	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Quinnebaug. Gibraltar.....	30.14‡	765.5‡	.....	.....	61	16.1	82	WSW	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Light rain...	
Ranger. Yokohama, Japan.....*	30.09‡	764.3‡	.....	.....	47	8.3	100	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond. N. 35° 55′, W. 10° 55′.....	30.15‡	765.8‡	.....	.....	57	13.9	74	NW	.....	.....	4	.....	10	.....	W	.....	.....	Smooth	NW	Cloudy.....	
Rio Bravo. Brownsville, Texas.....	30.28	769.1	53	11.7	51	10.6	93	N	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Santee. Annapolis, Md....	30.02‡	762.5‡	.....	.....	30	— 1.1	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
St. Louis. League Island, Pa.....	29.88	758.9	58	14.4	29	— 1.7	.....	NW	17	7.6	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Supply. Off Funchal, Madeira....	30.26‡	768.6‡	.....	.....	70	21.1	85	SW	.....	.....	0–1	.....	2	.....	SW	.....	.....	Smooth	.....	Clear.	
Trenton. Villafranca, France *...	29.94‡	760.5‡	.....	.....	55	12.8	87	SE	.....	.....	0–1	.....	10	.....	SE	.....	.....	.....	.....	Drizzling.....	
Tuscarora. N. 15° 26′, W. 98° 16′.....	30.04‡	763.0‡	.....	.....	83	28.3	67	NW	.....	.....	1	.....	0	.....	.....	0	0	Long	NE	Clear.....	
Wabash. Boston, Mass.....	29.72‡	754.9‡	.....	.....	23	— 5.0	73	NW	14	6.3	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Wyoming. Smyrna, Turkey.....	30.24	768.1	70	21.1	56	13.3	94	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level: corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			
San José, Guatemala†	*	30.15‡	765.8‡	70	21.1	??	Calm			0		0			0	Light	SSE	Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia,																			
S. 34° 55', E. 174° 07'		29.68*	753.9*				NE			2				NE		Long mod'ate	Var.	Rainy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. *The error of the barometer is not known. †Aneroid. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			
S. S. Britannic																			Capt. H. Perry.
N. 40° 11' W. 60° 10'.†	*	30.34‡	770.6‡	41	5.0		NW			6		10		NW	0	High	WNW	Squally	Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. *Instrumental error not known. †Aneroid. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 47', W. 176° 06'.*		30.10‡	764.5‡	64	17.8	68	WSW			4		n		NE		Mod'ate	NW	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool.....*		29.61‡	752.1‡	39	3.9	100	E			3		9		SE	Blank			Cloudy	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian																			Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

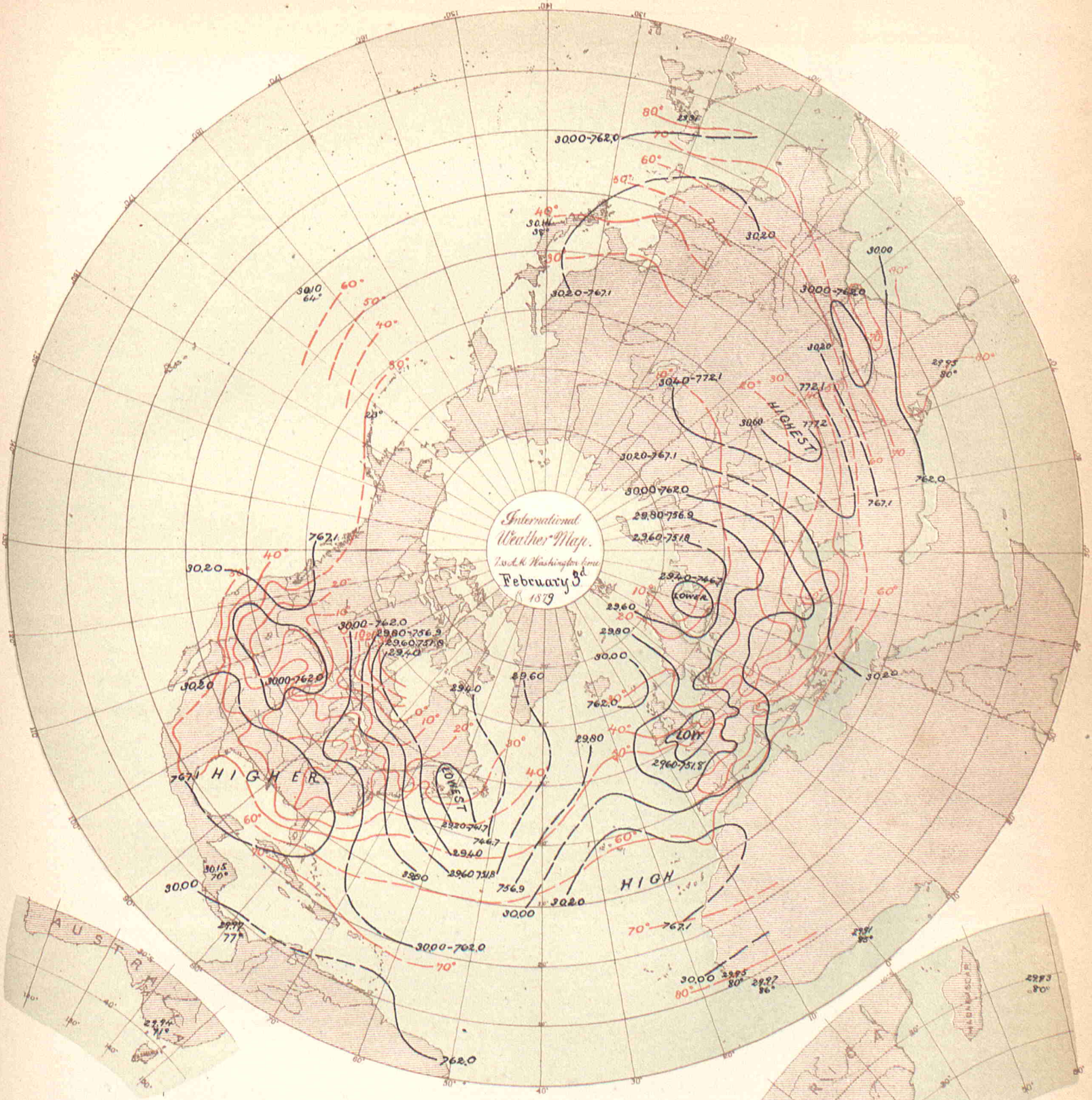
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 4, 1879.

7:35 A. M. WASHINGTON mean time.

8:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.34	770.7	61.0	16.1	.....	NE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.16	766.1	64.0	17.8	86	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.96	760.9	61.9	16.6	69	W	.....	.....	3	.....	10	.....	.....	0.536	13.6	Covered	Tourilliere.
La Calle	.....	.....	29.97	761.1	64.8	18.2	71	NNE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.97	761.3	70.5	21.4	39	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.05	763.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.08	762.8	61.7	16.5	90	S	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.04	763.1	63.1	18.4	19	W	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.00	761.9	66.3	19.5	95	W	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.10	764.4	64.0	17.8	30	SSW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.94	760.4	67.3	19.6	45	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.21	741.9	29.78	756.3	37.2	2.9	93	SW	.....	.....	2	.....	10	.....	.....	1.102	28.0	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.03	737.4	29.84	757.8	27.7	— 2.4	87	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	28.88	733.5	29.80	756.8	30.9	— 0.6	83	Calm	.....	.....	0	.....	10	.....	.....	0.039	1.00	.....	Julius Mikolik.
Gratz	28.50	723.8	29.78	756.4	37.0	2.8	91	S	.....	.....	2	.....	8	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.96	720.9	29.89	757.6	36.9	2.7	74	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.85	720.0	29.72	755.0	36.0	2.2	84	Calm	.....	.....	0	.....	9	.....	.....	0.138	3.5	.....	Prof. C. Wagner.
Lemberg	28.75	730.2	29.79	756.6	27.0	— 2.8	100	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.67	753.7	29.79	756.6	48.7	9.3	96	Calm	.....	.....	0	.....	10	.....	.....	0.268	6.8	.....	I.R. Hydrographic Office.
Szathmar	29.34	745.3	29.83	757.6	34.5	1.4	96	E	.....	.....	2	.....	10	.....	.....	0.340	8.8	.....	Julius Csics, S. J.
Szegedin	29.49	749.0	29.78	756.4	36.0	2.2	100	Calm	.....	.....	0	.....	10	.....	.....	0.187	4.75	.....	Karl Stancel.
Trieste	29.73	755.2	29.84	757.8	45.0	7.2	98	Calm	.....	.....	0	.....	10	.....	.....	1.362	34.6	Rain & fog	P. Busin.
Vienna	29.05	737.8	29.80	756.8	32.0	0.0	96	SSE	.....	.....	1	.....	10	.....	.....	0.047	1.2	.....	I.R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.93	760.2	30.03	762.8	35.7	2.1	.....	NW	3	1.3	.....	.....	7	.....	.....	0	0	D. clouds	W. Boswell.
Ardrossan	30.00	762.0	30.02	762.5	38	3.3	.....	ENE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	William McNeil.
Armagh, Observatory	.....	.....	30.04	763.0	37.5	3.1	.....	SE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.05	763.3	33.9	1.1	.....	NE	1	0.4	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton, (Sharples)	.....	.....	30.04	763.0	35.2	1.8	.....	ENE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.63	752.6	30.03	762.8	36.1	2.3	.....	E	.....	.....	1	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29 99	761.7	80	26.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Pvt. J. Surgener, A H. C.
Cambridge, Observatory	.....	.....	30.00	762.0	36.0	2.2	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	30.00	762.0	37.0	2.8	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E	29.83	757.7	29.96	761.0	35.2	1.8	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	28.14	714.7	29.64	752.8	38.0	3.3	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Rain and fog	Alexander Watt.
Donaghadee	30.01	762.2	30.05	763.3	36	2.2	.....	E	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.92	760.0	29.94	760.5	36	2.2	.....	NE	.....	.....	4	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.80	756.9	30.04	763.0	40.2	4.6	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.41	696.2	29.73	755.1	85.0	29.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. S.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.69	754.1	29.92	760.0	85	29.4	.....	N	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	.....
Galway, Queen's College	.....	.....	29.94	760.5	39	3.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.04	763.0	30.10	764.5	59.1	15.1	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.81	757.2	30.02	762.5	36.0	2.2	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.95	760.7	29.96	761.0	35	1.7	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.98	761.5	35.3	1.8	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.76	755.9	29.99	761.7	38	3.3	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.67	753.6	29.79	756.7	47	8.3	.....	S	.....	.....	2	.....	10n	.....	.....	Blank	Blank	Raining	M. P. Moyle.
Holyhead	29.97	761.2	30.02	762.5	38	3.3	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.68	753.9	29.95	760.7	37.9	3.3	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	J. Fisher.
Kew, Observatory	29.96	761.0	30.00	762.0	36.2	2.3	.....	NNE	10	4.5	.....	.....	10	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	29.77	756.1	30.03	762 8	35.2	1.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.00	762.0	30.07	763.8	61	16.1	.....	SW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.86	758.4	29.96	761.0	35	1.7	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.21	767.3	67.4	19.7	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.84	757.9	30.04	763.0	36.2	2.3	.....	N	.....	.....	5	.....	10d	.....	N	.....	.....	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.49	749.0	30.03	762.8	34.8	1.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.02	762.5	35	1.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.93	760.2	30.01	762.2	39.1	3.9	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.98	761.5	30.02	762.5	42	5.6	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	W. Kennedy.
Saint Ann's Head	29.86	758.4	30.03	762.8	39	3.9	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.96	761.0	34.1	1.2	.....	SSW	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.99	761.7	50.6	10.3	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	29.77	756.1	30.06	763.5	37.2	2.9	.....	NNE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.01	762.2	30.04	763.0	37.2	2.9	95	Calm	.....	.....	0	.....	6	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.64	752.8	30.04	763.0	36.1	2.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Strathfield Turgiss	29.78	756.4	30.01	762.2	35.5	1.9	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	C.H.Griffith, F.M.S.
Thurso	29.91	759.7	29.97	761.2	35	1.7	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	30.00	762.0	45	7.2	.....	S	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	W. Newcombe.
Valencia, Observatory	29.97	761.2	30.00	762.0	41.4	5.2	.....	SE	20	8.9	.....	.....	10	.....	.....	.....	.....	Misty	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.06	763.5	34.0	1.1	.....	W	.....	.....	1	.....	10s	.....	.....	0.01	0.3	Overcast	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.93	760.2	81.2	27.3	67	ENE	15.0	6.7	.....	6	4	WSW	NNE	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	72.0	22.2	65	SSW	3	1.3	.....	.....	0	.....	.....	0	0	Hazy	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.82	757.4	40	4.4	.....	SSW	.....	.....	5	10	10	SSW	.....	Blank	Blank	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.90	759.4	32	0.0	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
H. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	65.8	18.5	76	NE	.....	.....	1	.....	4c;ks	.....	NE	0	0	Cloudy	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.88	759.0	29.93	760.2	23.7	— 4.6	93	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	29.93	760.2	29.95	760.7	22.5	— 5.3	96	SE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.18	741.1	29.22	742.2	23.0	— 5.0	64	NE	.....	.....	4–5	.....	0	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.74	755.4	29.78	756.3	38.3	3.5	80	S	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Vestervig	29.73	755.2	29.90	759.5	22.3	— 5.4	90	S	.....	.....	2	.....	7	.....	.....	.....	.....	Raining	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.35	745.5	29.90	759.5	39.2	4	97	NE	.....	.....	1	.....	10	.....	.....	0.256	6.5	Covered	Collignon, Director.
Amiens, Normal School	29.81	757.2	29.93	760.1	50.0	10	85	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.71	754.5	29.78	756.5	52.7	11.5	86	NE	.....	.....	1	.....	10	.....	.....	0.16	4.	Covered	M. Giraud, Director.
Bar-sur-Seine	29.22	742.1	29.80	757.0	36.5	2.5	93	NE	.....	.....	1	.....	10	.....	.....	0 476	12.1	Covered	C. Saillard, Director.
Beauvais, Normal School	29.61	752.2	29.91	759.6	35.6	2	85	N	.....	.....	1	.....	10	.....	W	0.089	2.26	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.91	734.2	29.80	757.0	47.5	8.6	92	S	.....	.....	2	.....	10	.....	SW	0.91	23.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.90	734.1	29.81	757.1	49.5	9.7	92	S	.....	.....	1	.....	n	S	S	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.24	742.8	29.82	757.3	40.1	4.5	95	NNW	.....	.....	3	.....	8	N	N	0.16	4.	Very cloudy	A. Waquet, Director
Brest, Naval Observatory	29.65	753.2	29.90	759.4	43.5	6.4	85	NNE	.....	.....	3	.....	10	.....	NNE	0.010	0.25	Misty	M. de Rermaur, Director
Carcassonne, Normal School	29.39	746.6	29.81	757.2	51.6	10.9	92	NE	.....	.....	1	.....	5	W	W	0	0	Cloudy	September, Director.
Caen, Normal School	29.65	753.2	29.93	760.1	38.8	3.8	76	N	.....	.....	2	.....	10	.....	SW	0.003	0.02	Covered	M. Lair, Director.
Chartres, Normal School	29.23	742.5	29.82	757.3	38.1	3.4	93	NNW	.....	.....	1	.....	9	.....	S	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.49	749.0	29.82	757.4	34.9	1.6	100	NNW	.....	.....	4	.....	8	NW	NW	0.307	7.8	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	25.35	720.2	29.71	754.5	52.3	11.3	77	N	.....	.....	1	.....	10	.....	WSW	0.024	0.6	Raining	Allnard, Director.
Commercy, Normal School	28.86	733.1	29.77	756.2	36.3	2.4	100	WNW	.....	.....	1	.....	10	.....	WNW	0.83	21.	Covered	Dr. Coulet, Director.
Commune de Grésque*	28.72	729.6	29.79	756.6	53.1	11.7	78	N	.....	.....	1	.....	8	NW	W	0	0	Very cloudy	M. Kina, Director.
Grenoble, Normal School	29.00	736.6	29.77	756.2	49.6	9.8	88	NNE	.....	.....	1	.....	8kn	.....	SW	0.256	6.50	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.65	753.2	29.88	758.8	43.5	6.4	85	S	.....	.....	3	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.69	754.7	29.91	759.7	41.2	5.1	90	N	.....	.....	3	.....	8	.....	N	0.268	6.8	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baudry, Director.
Lorient, Naval Observatory	29.88	759.0	29.98	761.5	43.2	6.2	88	N	.....	.....	3	.....	.....	.....	N	0.071	1.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galsin, Director
Mirecourt, Normal School	28.66	727.9	29.72	754.8	42.1	5.6	91	NE	.....	.....	3	.....	kn	.....	SW	0.197	5.0	.....	M. Barbier, Director.
Nismes, Normal School	29.57	751.0	29.77	756.2	58.3	14.6	80	NE	.....	.....	1	.....	10	.....	NE	0	0	Covered	Boyer, Director.
Privas, Normal School	28.74	729.9	29.80	756.9	53.2	11.8	78	SW	.....	.....	1	n	.....	S	SW	0.142	3.6	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.83	630.6	.....	.....	34.9	1.6	100	SW	.....	.....	7	.....	10	.....	.....	0.193	4.9	Drizzling	Allnard, Director.
Rochefort, Naval Obs'y	29.81	757.1	29.84	757.9	46.4	8.0	91	N	.....	.....	1	.....	10	N	N	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.61	757.1	29.89	759.3	39.9	4.4	65	N	.....	.....	3	.....	2	.....	N	0.169	4.3	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.91	759.8	29.94	760.6	39.7	4.3	85	NE	.....	.....	3	.....	8	NNE	NNE	0.075	1.91	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.69	754.1	29.85	758.3	35.6	2.0	89	N	.....	.....	2	.....	10	.....	N	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.66	727.9	29.74	755.4	50.0	10	50	W	.....	.....	1	.....	10	.....	.....	0.24	6.	Raining	T. Huguet, Director.
Versailles Observatory	29.36	745.7	29.85	758.2	36.0	2.2	.....	NE	.....	.....	1	.....	10	.....	.....	0.004	0.09	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.05	737.8	29.78	756.3	43.7	6.5	88	SE	.....	.....	1	.....	8	.....	S	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	761.9	30.02	762.6	77.4	25.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.73	755.2	52.5	11.4	85	N	.....	.....	1	.....	9	.....	.....	0.264	6.7	Raining	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.59	624.6	29.91	759.6	37.4	3.0	74	N	.....	.....	5	.....	6	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	29.77	756.2	53.2	11.8	90	E	.....	.....	1	.....	1	.....	.....	0.079	2.0	Hazy	Dr. A. Nieper, Jr.
Paris, Montsouris Obs'y	29.57	751.1	.....	.....	35.2	1.8	89	N	.....	.....	3	.....	10	.....	.....	0.004	0.1	.....	Marié Davy, Director.
Perpignan	29.09	754.0	29.79	756.7	51.8	11.0	85	NE	5.6	2.5	.....	.....	8	.....	W	Inap.	Inap.	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.20	564.0	.....	.....	26.6	— 3.0	.....	W	.....	.....	4	.....	10	.....	.....	0.459	11.5	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.11	739.3	29.82	757.5	48.6	9.2	97	W	.....	.....	3	.....	10	.....	.....	0.614	15.6	Raining	M. Mercadier Juller.
Tours	29.64	752.9	29.84	757.9	42.8	6.0	81	NNE	.....	.....	1	.....	7	.....	NNE	1.409	35.8	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.44	773.2	30.46	773.8	40.3	4.6	89	ENE	7.6	3.4	.....	.....	10cn	.....	.....	0	0	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.81	731.7	29.64	752.8	39.7	4.3	97	SE			4		10			0.51	13.	Rain & fog	Prof. Dr. Hoh.
Berlin	29.66	753.4	29.84	758.0	26.1	— 3.3	90	NE			1		10			0	0		Prof. Arndt.
Breslau	29.25	742.9	29.78	756.3	32.9	0.5	88	E			1		10			0	0		Royal University Obs'y
Carlsruhe	29.22	742.2	29.65	753.0	46.8	8.2	94	SW			2		10			0.346	8.8	Raining	Albert Senz.
Cassel	29.13	740.0	29.74	755.8	31.5	— 0.3	85	NE			2		10	NW		0.021	0.52	Snowing	Dr. H. Möhl.
Crefeld	29.62	752.3	29.78	756.4	27.5	— 2.5	89	N			5		9			0.16	4.		Director Lose.
Emden					26.4	— 3.1	88	NE			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.31	744.5	29.69	754.0	37.6	3.1		NNE			1		10			0.445	11.3		Physical Society.
Friedrichshafen	28.28	718.2	29.66	753.3	47.5	8.6	66	SSE			1		9	WSW		0.134	3.4		M. Wilhelm.
Hamburg	29.84	757.8	29.91	759.7	28.6	— 3.0	78	ENE			4		10			0	0	Hazy	Captain F. Hegemann.
Kiel	29.92	760.0	29.94	760.4	28.2	— 3.2	78	NE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.84	757.8	29.93	760.1	20.5	— 6.4	84	E			2		0			0	0		Prof. E. Luther.
Köslin			29.86	758.4	25.5	— 3.6		NE			2		4			0	0		H. Müller.
Leipsic, Observatory	29.34	745.2	29.78	756.3	32.2	0.1	90	NE			2		10			0.055	1.4	Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.89	759.1	29.93	760.3	23.9	— 4.5	81	Calm			0		7cs					Light fog	Skalweit.
Neufahrwasser	29.91	759.6	29.92	760.0	25.2	— 3.8	73	SSW			1		10			0	0		A. Lothes.
Posen	29.60	751.9	29.91	759.6	26.8	— 2.9	84	NNE			4		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.13	740.0	29.69	754.1	45.7	7.6	96	N			1		10			0.317	8.06	Raining	Imp. University Observatory.
Stuttgart	28.71	729.1	29.61	752.2	49.1	9.5	80	SW			1		9	W		0.102	2.6	Raining	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.16	715.2	29.68	753.9	42.8	6.0	90	WSW	7	3			10		W	0.228	5.8		Dr. Van Bebber.
Wustrow, Naval School	29.88	759.0	29.91	759.6	28.0	— 2.2	89	NE			2		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.8	30.07	763.8	57.6	14.2		SW			1.5							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	762.0	30.05	763.3	76.6	24.8	30	ENE	18	8.0			1			0	0	D. clouds	
Deesa	29.48	748.7	29.95	760.7	84.1	28.9	23	SW	7.3	3.3			0			0	0	Blue sky	
Bombay	29.95	760.8	29.99	761.7	77.4	25.2	73	NW	16	7.2			5	WSW		0	0	D. clouds	
Poonah	27.94	709.6	29.93	760.3	81.4	27.4		NE					0			0	0	Blue sky	
Lahore	29.29	744.0	30.06	763.5	66.6	19.2	33	E	3.0	1.3			10			0	0	Cloudy	
Belgaum	27.45	697.1	29.98	761.4	79.9	26.6	39	Calm					8			0	0	D. clouds	
Roorkee	29.12	739.6	30.04	762.9	71.6	22.1	23	Calm	1	0.4			10			0	0	Gloomy	
Agra	29.44	747.9	30.02	762.4	76.7	24.8	36	E								0	0		
Nagpur	28.95	735.4	30.00	761.9	83.6	28.7	33	Calm	2.5	1.1						0	0	Blue sky	
Lucknow	29.67	753.6	30.05	763.3	74.3	23.5	40	NW	0.3	0.1						0	0	Blue sky	
Allahabad	29.73	755.1	30.05	763.2	71.1	21.7	42	Calm	0.5	0.2			0			0	0	Blue sky	
Patna	29.90	759.4	30.08	764.1	78.3	25.7	37	Calm	1.1	0.5			0			0	0	Blue sky	
Hazaribagh	28.01	711.5	30.07	763.7	70.3	21.3	20	NW	4.4	2.0			0			0	0	Blue sky	
Cuttack	30.00	762.1	30.09	764.2	76.5	24.7	49	Calm	1.0	0.4			0			0	0	Blue sky	
Calcutta (Alipore)	30.04	762.9	30.06	763.5	69.7	20.9	53	NNE	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.68	753.8	30.08	764.0	69.6	20.9	42	ENE	5.5	2.5			0			0	0	Blue sky	
Chittagong	29.98	761.5	30.08	763.9	70.5	21.6	70	W	4.6	2.1			0			0	0		
Sibsagar	29.78	756.3	30.13	765.2	63.0	17.2	71	NE	3.0	1.3			0			0	0	Blue sky	
Jubbulpore	28.64	727.6	30.01	762.3	82.	27.8	42	NE	1.6	0.7			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,952.4 feet, or 606.8 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.6 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.40	746.8	29.82	757.5	45.1	7.3	81	Calm	0	0	.....	.....	10	.....	.....	0.220	5.6	.....	Prof. Giovanni Clodig.
Padua	29.70	754.4	29.81	757.2	44.1	6.7	93	NW	0.7	0.3	.....	.....	10	W	.....	0.276	7.0	.....	Prof. Dott. Lorenzoni
Milan	29.26	743.2	29.79	756.7	42.8	6.0	91	WSW	.....	.....	1	.....	10	W	.....	0.020	0.5	.....	Prof. Schiaparelli.
Moncalieri	28.91	734.3	29.84	758.0	39.4	4.1	97	SE	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.86	707.6	29.81	757.1	41.2	5.1	75	WNW	.....	.....	2	.....	1	SW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.54	750.2	29.73	755.2	46.0	7.8	87	NE	1.3	0.6	.....	.....	10	SE	.....	0 181	4.6	.....	Prof. G. M. Garibaldi.
Florence	29.54	750.2	29.80	756.8	55.4	13.0	87	S	.....	.....	2	.....	10	.....	.....	0.248	6.3	.....	Cav. F Meucci
Leghorn	29.68	753.9	29.76	756.0	57.7	14.3	88	WSW	1.8	0.8	.....	.....	10	S	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.75	755.6	29.80	756.8	45.1	7.3	96	NE	9.4	4.2	.....	.....	10	.....	.....	0.020	0.5	.....	Prof. Luigi Guidi.
Rome	29.72	754.8	29.89	759.3	57.7	14.3	78	S	11.9	5.3	.....	.....	16	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.71	754.6	29.97	761.1	59.0	15.0	72	SSW	9.4	4.2	.....	.....	6	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.68	753.8	29.87	758.7	62.6	17.0	66	Calm	0	0	.....	.....	9	SW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.2	30.00	762.0	57.9	14.4	74	NW	1.3	0.6	.....	.....	6	.....	.....	0.047	1.2	.....	Prof. D. Conti.
Palermo	29.72	754.9	29.98	761.4	66.7	19.3	39	SSW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.2	30.06	762.0	61.9	16.6	80	S	7.4	3.3	.....	.....	1	WNW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.42	747.2	29.97	761.3	55.5	13.2	96	SW	0.7	0.3	.....	.....	10	.....	.....	0.024	0.6	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.35	770.9	30.37	771.4	41.4	5.2	72	NNW	3.4	1.5	.....	.....	9ck	.....	NW	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	30.16	766.0	30.37	771.4	40.9	4.9	73	NE	2.7	1 2	.....	.....	10ck	W	.....	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.19	766.8	30.26	768.6	38.4	3.6	64	NNE	5.8	2.6	.....	7ck	0	WSW	.....	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.11	637.9	30.29	769.4	44.2	6.8	60	SW	.....	.....	1	1cs	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.46	621.3	30.09	764.5	55.5	13.2	78	NNW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.07	586.0	30.25	768.3	44.1	6.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	48.6	9.2	75	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.00	762.0	30.01	762 3	64	17.8	95	S	.....	.....	2	0	0	.....	.....	0.008	0.2	Misty	M. M. Cházaro.
San Luis Potosi	24.19	614.4	30.14	765.6	48.0	8.9	75	NE	.....	.....	.....	2	0	W	.....	0	0	Misty	G. Barroeta, M. D.
Vera-Cruz	30.04	763.1	30.07	763.8	63.5	17.5	80	SW	0	0	.....	.....	1s	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.41	594.5	30.16	766.0	39.2	4.0	68	ENE	3.1	1.4	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.48	722.0	30.10	764.4	72.1	22.3	74	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.02	762.6	30.15	766.0	67	19 4	.....	NW	.....	.....	1	6n	4n	.....	.....	0.043	1.1	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,559.5 m., or 5,196.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m.. or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 582 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.61	752.1	29.61	752.1	37.4	3.0	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0.157	4.0	.....	
Groningen	29.87	758.6	29.92	760.0	26.7	— 3.5	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.91	759.8	29.91	759.8	27.3	— 2.6	.....	NNE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.88	758.9	29.88	758.9	27.1	— 2.7	87	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.85	758.2	29.90	759.4	26.2	— 3.8	81	NNE	.....	.....	4	.....	10	.....	.....	0	0	Dull	H. v. d. Briak.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.89	759.1	29.94	760.5	30.2	— 1.0	80	SSE	6.0	2.7	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.67	751.0	29.61	752.0	25.2	— 3.8	91	NW	22	10	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.72	754.9	29.88	758.9	21.0	— 6.1	93	WSW	2	1	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.43	747.5	29.47	748.6	17.2	— 8.2	76	S	13	6	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.97	761.2	30.16	766.1	61.2	16.2	94	SSW	8.7	3.9	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.2	30.10	764.6	53.6	12.0	65	WNW	15.4	6 9	.....	.....	4	NW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.27	768.8	30.35	771.0	64.9	18.3	56	SW	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.81	757.1	30.17	766.3	55.9	13.3	63	NW	16.1	7.2	.....	.....	8	NW	.....	0.157	4.0	.....	The Staff.
Ponta Delgada, (Azores)	30.18	766.5	30.25	768.3	62.6	17.0	90	SW	21.0	9.4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd'r
D. Fernando	.....	.....	.....	A. M. de Sande, Comd.t.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd'
Quanza, Ajuda, Gulf of Guinea	1	wsw	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd'
Rio Lima, Capt. da Silva Costa, Porto de San Jose, de Bissao	1	SW	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	2	NNW	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	1	N	Blue sky	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.37	746.0	29.82	757.3	27.0	— 2.8	83	NE	2	1	.....	.....	9ks;c	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.46	748.2	29.91	759.6	19.8	— 6.8	88	SW	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.64	752.9	29.91	759.6	11.1	—11.6	89	SW	7	3	.....	.....	1k	.....	.....	.....	.....	.....	Prof. Dr. Weibrauch.
St. Petersburg	29.75	755.7	29.77	756.1	6.1	—14.4	100	SSE	7	3	.....	.....	6	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.20	741.6	29.88	759.0	11.8	—11.2	82	S	9	4	.....	.....	6c;ck;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.92	760.0	29.99	761.8	22.6	— 5.2	85	NNW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.10	764.6	30.12	765.1	29.8	— 1.2	94	E	2	1	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.28	743.7	29.87	758.6	18.9	— 7.3	78	N	7	3	.....	.....	dks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.76	755.9	29.98	761.4	27.3	— 2.6	74	Calm	0	0	.....	.....	9s	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.37	745.9	29.39	746.4	7.5	—13.6	88	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt Sselliwerstow.
Tiflis	28.69	728.8	30.16	766.1	39.6	4.2	59	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.11	764.9	30.03	762.8	36.0	2.2	82	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.36	745.8	29.87	758.6	19.9	— 6.7	74	WSW	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Cand. Fatjanow.
Kasan	29.45	748.0	29.73	755.2	19.9	— 6.7	78	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.76	730.4	29.77	756.1	21.2	— 6.0	82	SW	16	7	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.66	727.9	30.49	774.4	25.9	— 3.4	91	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.98	761.4	30.52	775.3	12.4	—10.9	83	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.17	766.3	30.50	774.6	1.0	—17.2	85	E	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.48	774.2	30.62	777.8	29.5	— 1.4	57	SSW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the cooperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.69	754.1	29.80	756.8	68.6	14.8	68	S	2.3	1.03	.....	.....	6	.....	.....	0.625	15.87	½ covered	Antonio Rave, Director
Bilbao, Met. Obs'y	29.89	759.1	29.95	760.6	53.2	11.8	78	NW	5.1	2.29	.....	2	6	N	.....	0.173	4.4	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.91	683.6	.....	.....	43.9	6.6	84	N	11.3	5.05	...	.....	8	.....	.....	0.071	1.8	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.65	702.2	.....	.....	50.0	10.0	55	NW	34.3	15.34	.....	0	8	.....	.....	0.138	3.5	Cloudy	The Staff.
Murcia, Met. Obs'y	29.75	755.7	29.91	759.6	59.4	15.2	84	NW	4.3	1.94	.....	5	4	SSE	.....	0.016	0.4	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.9	30.04	763.0	50.0	10.0	74	NW	8.7	3.9	.....	.....	6	.....	.....	0.22	5.6	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.90	759.6	29.95	760.9	82.2	27.9	74	NE	0	0	.....	8k	.....	E	.....	0.039	1.0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.06	763.4	30.16	766.0	58.3	14.6	72	WNW	8.2	3.7	.....	0	6	.....	NW	0.135	3.4	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.04	762.9	30.13	765.2	77.0	25.0	78	E	7.5	3.34	.....	6k	6k	E	E	0	0	Cloudy	Leonardo de Tejada, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	OBSERVER.
Haparanda	29.64	752.9	29.68	753.9	—11.2	—24.0	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	
Umea	29.68	753.8	29.73	755.1	2.8	—16.2	100	SW	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	29.71	754.6	29.76	755.9	10.0	—12.2	100	Calm	.....	.....	0	.....	8	.....	.....	0.079	2.0	Snowing	
Stockholm	29.67	753.7	29.85	758.2	15.4	— 9.2	94	W	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	29.82	757.3	29.87	758 8	29.1	— 1.6	68	NW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.73	755.1	29.80	757.0	10.6	—11.9	93	SW	15.7	7.0	.....	.....	2	WNW	.....	0.004	0.10	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.32	719.3	29.76	755.9	48.9	9.4	84	SW	.....	.....	1	.....	10	.....	.....	0.681	17.3	Raining	The Observatory.
Zurich	28.10	713.7	29.77	756.2	44.2	6.8	84	S	.....	.....	1	.....	8	.....	.....	0.177	4.5	Cloudy	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —7.6 mm.; Thermometer, +6.8 ent.; Relative Humidity, +9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.04	763.1	48.6	9.2	86	SE	2	1.0	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.02	762.4	63.0	17.2	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.00	762.0	30.12	765.1	56.1	13.4	90	SW	.....	.....	1	.....	10n	.....	SW	.....	.....	Raining	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.42	747.2	29.49	749.0	24.7	— 4.1	67	NW	5	2.2	.....	4ck	0	.....	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	29.60	751.8	29.92	760.0	24	— 4 4	.....	W	4	1.8	.....	.....	8s	.....	W	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29.38	746.3	29.44	747.8	23	— 5.0	83	NW	10	4.5	.....	5ck	0	NW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.34	745.2	29.38	746.2	24	— 4.4	79	W	6	2.7	.....	0	8ck	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.84	757.9	23.9	— 4.5	84	NW	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.37	771.4	30.42	772.6	30.0	— 1.1	89	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.54	760.3	29.66	760.8	18	— 7.8	80	W	15	6.7	.....	8k	2s	NW	NW	0.08	2.0	Cloudy	J. McWilliams.
Fredericton, N. B	29.44	747.8	29.51	749.5	25.7	— 3.5	68	NW	8	3.6	.....	c	1s	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.25	742.9	30.19	766.8	— 8	—22.2	96	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.02	734.6	30.10	764.5	18	— 7.8	.....	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	James Grant.
*Halifax, N. S	29.28	743.7	29.42	747.2	26	— 3.3	90	W	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.69	754.1	30.08	764.0	28.7	— 1.8	89	SW	.....	.....	1	10cs	0	SW	.....	0.03	0.8	Snowing	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.61	752.1	29.97	761.2	24	— 4.4	93	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.27	743.4	29.31	744.5	26.6	— 3.0	86	W	8	3.6	.....	7ks	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.60	751.8	29.81	757.2	23	— 5.0	76	NW	20	8.9	.....	8k	2ks	.....	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.29	744.0	30.03	762.8	19	— 7.2	85	W	4	1.8	.....	5k	5ks	W	W	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	30.02	762.5	20.0	— 6.7	73	W	.....	.....	.....	0	4s	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.85	745.5	30.08	764.0	26	— 3.3	88	W	7	3.1	.....	10k	0	SW	.....	Inap	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.31	744.5	29.36	745.7	26.5	— 3.1	.....	NW	7	3.1	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.12	765.0	21	— 6.1	87	NW	5	2.2	.....	2k	2ks	W	NW	0.04	1.0	Clear	M. Payne.
*Quebec, Quebec	29.85	745.5	29.70	754.4	16	— 8.9	91	NW	.....	.....	5	.....	10n	.....	NW	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.46	748.3	29.95	760.7	22	— 5.6	86	NW	4	1.8	.....	.....	8s	.....	N	Inap.	Inap	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.37	771.4	30.42	772.6	30	— 1.1	85	W	.....	.....	3	2k	2ks	NW	.....	0	0	Fair	Dr. Gove.
St. John, N. B	29.31	744.5	29.48	748.8	26	— 3.3	87	NW	6	2.7	.....	0	7k	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.07	763.8	19	— 7.2	91	NW	1	0.4	.....	5k	0	N	.....	0.12	3.0	Fair	K. Stewart.
Stayner, Ontario	29.24	742.7	30.07	763.8	23	— 5.0	88	Calm	0	0	.....	2k	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.72	729.6	30.10	764.5	16.0	— 8.9	95	W	17.5	7.8	.....	1c	3s	N	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.28	743.7	29.32	744.7	28	— 2.2	79	SW	8	3.6	.....	8cs	2ks	W	SW	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.68	753.9	30.09	764.3	22	— 5.6	87	W	6	2.7	.....	.....	10ks	.....	NW	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.44	747.8	29.53	750.0	28.0	— 2.2	88	W	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	30.0	— 1.1	100	SW	.....	.....	.....	5c?	10s	.....	.....	0.11	2.8	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim'rs.	Weather.	Observer.
Albany, New York	29.64	752.8	29.88	758.9	27	— 2.8	76	NW	20	8.9	.....	.....	10s	.....	NW	0.02	0.5	Cloudy	
Alpena, Michigan	29.40	746.7	30.10	764.5	15	— 9.4	82	W	8	3.6	.....	5c	0	Calm	.....	0.01	0.3	Fair	
Atlanta, Georgia	28.99	736.3	30.17	766.3	42	5.6	68	W	8	3.6	.....	5c	Sm'e	W	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.02	762.5	30.03	762.8	29	— 1.7	67	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.01	762.2	30.19	766.8	37	2.8	71	Calm	0	0	.....	2cs	Fog	N	Calm	0	0	Fair	
Baltimore, Maryland	30.05	763 3	30.10	764 5	34	1.1	61	W	8	3.6	.....	Haze	5s	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	29.94	760.5	29.97	761.2	29	— 1.7	78	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	28.29	718.6	30.14	765.5	2	—16.7	100	NW	16	7.2	.....	0	0	.....	.....	0.10	2.5	Clear	
Boerne, Texas	28.39	721.1	29.70	754.4	48	8.9	100	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.24	691.9	30.20	767.1	18	— 7.8	75	E	2	0.9	.....	5k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.59	751.6	29.75	755.6	27	— 2.8	53	NW	15	6.7	.....	2k	0	NW	.....	0	0	Fair	
Brackettville, Texas	28.81	731.8	29.85	758.2	48	8.9	78	E	7	3.1	.....	.....	Fog	.....	Calm	0.07	1.8	Foggy	
Breckenridge, Minnesota	29.03	737.3	30.11	764.8	11	—11.7	92	N	9	4.0	.....	0	0	.....	.....	0.11	2.8	Clear	
Brownsville, Texas	29.84	757.9	29.91	759.7	56	13.3	94	S	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
Buffalo, New York	29.31	744.5	30.04	763.0	27	— 2.8	88	W	6	2.7	.....	.....	10n	.....	W	0.04	1.0	Light snow	
Burkes, Arizona	.....	.....	.....	.....	47	8.3	21	S	.....	.....	1	.....	10s	.....	Calm	1.03	26.2	Cloudy	
Burlington, Vermont	29.54	750.3	29.84	757.9	26	— 3.3	88	NW	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Cairo, Illinois	29.64	752.8	30.04	763.0	41	5.0	74	S	5	2.2	.....	5ck	0	W	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	24.94	633.5	29.74	755.4	37	2.8	90	N	4	1.8	.....	.....	10n	.....	Calm	0.59	15.0	Light rain	
Camp Verde, Arizona	.....	.....	.....	.....	42	5.6	91	S	.....	.....	3	.....	10n	.....	Calm	0.12	3.0	Light rain	
Campo, California	27.31	693.7	29.88	758.9	41	5.0	91	SW	10	4.5	.....	.....	10s	.....	SW	1.24	31.5	Cloudy	
Cape Hatteras, N. Carolina	30.12	765.0	30.13	765.3	38	3.3	72	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.09	764.3	30.11	764.8	34	1.1	61	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.12	765.0	30.14	765.5	37	2.8	63	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.02	762.5	30.05	763.3	31	— 0.6	79	W	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.07	738.4	29.78	756.4	49	9.4	93	Calm	0	0	.....	.....	Fog	.....	.....	0.02	0.5	Foggy	
Charleston, South Carolina	30.18	766.6	30.25	768.3	41	5.0	57	W	3	1.3	.....	10c	0	W	.....	0	0	Cloudy	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	6	—14.4	76	N	20	8.9	.....	.....	10n	.....	Calm	Inap.	Inap	Light snow	
Chicago, Illinois	29.28	743.7	30.00	762.0	32	0.0	89	SW	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Cincinnati, Ohio	29.57	749.3	30.20	767.1	28	— 2.2	77	E	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.41	747.0	30.18	766.6	22	— 5.6	72	S	5	2.2	.....	0	2s	.....	Calm	0.06	1.5	Clear	
Coleman City, Texas	27.98	710.7	29.61	752.8	46	7.8	84	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.31	744.5	30.21	767.3	25	— 3.9	75	SW	2	0.9	.....	2ck	Fog	W	Calm	0	0	Fair	
Corpus, Texas	27.89	708.4	29.57	751.1	45	7.2	92	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Corsicana, Texas	29.40	746.7	29.87	758.7	51	10.6	86	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.17	740.9	29.82	757.4	34	1.1	70	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.38	644.6	.....	.....	10	—12.2	79	N	1	0.4	.....	.....	10n	.....	Calm	0.33	8.4	Light snow	
Decatur, Texas	28.62	726.9	29.97	761.2	48	8.9	86	SE	18	8.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Denison, Texas	29.04	737.6	29.83	757.7	50	10.0	86	S	16	7.2	.....	5k	5s	SW	SW	0	0	Cloudy	
Denver, Colorado	24.74	628.4	29.96	761.0	16	— 8.9	83	NE	4	1.8	.....	.....	10n	.....	Calm	0.08	2.0	Light snow	
Des Moines, Iowa	28.85	732.8	29.74	755.4	37	2.8	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.43	747.5	30.14	765.5	25	— 3.9	75	W	2	0.9	.....	0	2s;fg	.....	Calm	0.08	2.0	Fair	
Dodge City, Kansas	27.28	692.9	29.64	752.8	27	— 2.8	88	N	40	17.9	.....	.....	10ks	.....	N	0	0	Cloudy	
Dubuque, Iowa	29.15	740.4	29.87	758.7	30	— 1.1	89	SE	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Duluth, Minnesota	29.32	744.7	30.03	762.8	24	— 4.4	87	NW	3	1.3	.....	.....	10n	.....	NW	Inap.	Inap.	Light snow	
Eagle Pass, Texas	29.05	737.9	29.80	756.9	48	8.9	93	SE	.....	.....	1	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Eastport, Maine	29.40	746.8	29.51	750.3	24	— 4.4	80	NW	15	6.7	.....	2ck	2s	Calm	NW	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	54	12.2	100	SE	.....	.....	1	.....	10s	.....	Calm	0.01	0.3	Cloudy	
El Paso, Texas	25.98	659.9	.....	.....	52	11.1	72	NW	4	1.8	.....	.....	10n	.....	NW	0.69	17.5	Light rain	
Erie, Pennsylvania	29.36	745.7	30.12	765.0	27	— 2.8	88	SW	7	3.1	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Escanaba, Michigan	29.39	746.5	30.09	764.3	19	— 7.2	69	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Florence, Arizona	28 32	719.3	29.92	760.0	49	9.4	85	SW	8	3.6	.....	.....	10n	.....	SW	0.85	21.6	Light rain	
Fort Buford, Dakota	.....	.....	.....	.....	— 7	—21.7	59	Calm	.....	.....	0	0	0	.....	.....	0.25	6.3	Clear	
Fort Craig, New Mexico	25.08	637.0	29.15	740.4	46	7.8	100	S	18	8.0	.....	.....	10n	.....	S	0.08	2.0	Heavy rain	
Fort Davis, Texas	24.94	633.5	29.90	759.4	47	8.3	92	SW	6	2.7	.....	.....	10ks	.....	SW	Inap.	Inap.	Light rain	
Fort Gibson, Indian Ter.	29.26	743.2	29.80	756.9	47	8.3	77	S	5	2.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
Fort Griffin, Texas	28.49	723.6	29.75	755.6	49	9.4	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.67	702.8	.....	.....	3	—16.1	73	S	3	1.3	.....	0	0	.....	.....	0.10	2.5	Clear	
Fort McKavett, Texas	27.49	698.2	29.39	746.5	47	8.3	85	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.52	724.4	29.63	752.6	43	6.1	92	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.27	718.0	.....	.....	— 3	—19.4	100	W	.....	.....	1	0	0	.....	.....	0.41	10.4	Clear	
Fredericksburg, Texas	28.04	712.2	29.59	751.6	59	15.0	86	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.92	760.0	29.96	761.0	59	15.0	94	SE	8	3.6	.....	.....	10s	.....	SE	0.02	0.5	Cloudy	
Graham, Texas	28.68	728.5	29.73	755.1	48	8.9	93	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Grand Haven, Michigan	29.36	745.7	30.04	763.0	25	— 3.9	75	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianapolis, Indiana	29.28	743.7	30.10	764.5	29	— 1.7	78	SE	4	1.8	.....	2ck	0	W	.....	0	0	Clear	
Indianola, Texas	29.90	759.4	29.93	760.2	59	15.0	94	S	15	6.7	.....	.....	10s	.....	S	0.04	1.0	Threatening	
Jacksboro, Texas	28.61	726 7	29.73	755.1	48	8.9	78	NW	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Jacksonville, Florida	30.24	768.1	30.27	768.8	41	5.0	74	Calm	0	0	.....	Haze	0	SW	.....	0	0	Hazy	
Keokuk, Iowa	29.15	740.4	29.77	756.1	37	2.8	71	S	6	2.7	.....	10k	0	SW	.....	0	0	Cloudy	
Key West, Florida	30.20	767.1	30.23	767.8	59	15.0	59	NE	12	5.4	.....	5c	0	Calm	.....	0	0	Fair	
Kittyhawk North Carolina	30.11	764.8	30.13	765.3	33	0.6	79	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.16	740.7	30.23	767.8	28	— 2.2	88	W	4	1.8	.....	10cs	Fog	NW	.....	0	0	Cloudy	
La Crosse, Wisconsin	29.13	739.9	29.89	759.2	30	— 1.1	89	E	4	1.8	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
La Mesilla, New Mexico	25.95	659.1	30.10	764.5	36	2.2	100	SW	4	1.8	.....	.....	10n	.....	NW	0.25	6.3	Light rain	
Laredo, Texas	29.43	747.5	29.77	756 1	51	10.6	93	SE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Leavenworth, Kansas	28.94	735.1	29.79	756.7	39	3.9	82	NW	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.45	748.0	29.78	756.4	50.0	10.0	89	NE	4	1.8	.....	.....	10s	.....	Calm	0.50	12.7	Cloudy	
Louisville, Kentucky	29.54	750.3	30.12	765.0	33	0.6	61	E	3	1.3	.....	5cs	Sm'e	Calm	Calm	0	0	Fair	
Lynchburg, Virginia	29.44	747.8	30.15	765.8	34	1.1	61	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.89	733.8	29.91	759.7	32	0.0	79	SE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.29	744.0	30.03	762.8	26	— 3.3	75	NW	7	3.1	.....	.....	10s	.....	N	0	0	Cloudy	
Mason, Texas	28.17	715.5	29.92	760.0	50	10.0	86	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.71	754.6	30.03	762.8	42	5.6	65	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.22	742.2	29.97	761.2	36	2.2	71	SE	21	9.4	.....	.....	10s	.....	S	Inap	Inap.	Cloudy	
Mobile, Alabama	30.13	765.3	30.18	766.6	46	7.8	84	Calm	0	0	.....	.....	10s;sn'	.....	Calm	0	0	Cloudy	
Montgomery, Alabama	29.96	761.0	30.21	767.3	38	3.3	80	Calm	0	0	.....	2c	Fog	W	Calm	0	0	Clear	
Morgantown, West Virginia	29.08	738.6	30.17	766.3	35	1.7	80	W	4	1.8	.....	.....	8ks	.....	W	0.01	0.3	Cloudy	
Mt. Washington, N. H.	23.12	587.2	29.48	748.8	0	—17.8	100	NW	57	25.5	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.67	751.1	30.13	765.3	33	0.6	79	Calm	0	0	.....	5cs	Haze	.....	.....	0	0	Fair	
New Haven, Connecticut	29.75	755.6	29.87	758.7	30	— 1.1	78	W	8	3.6	.....	2cs	(	Calm	.....	0	0	Clear	
New London, Connecticut	29.78	756.4	29.83	757.7	30	— 1.1	62	W	16	7.2	.....	3ck	0	NW	.....	0	0	Fair	
New Orleans, Louisiana	30.04	763.0	30.10	764.5	53	11.7	86	SE	6	2.7	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Newport, Rhode Island	29.74	755.4	29.79	756.7	31.6	—0.3	79	W	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
New York, New York	29.77	756.1	29.95	760.7	32	0.0	69	NW	22	9.8	.....	0	8s	.....	Calm	0	0	Fair	
Norfolk, Virginia	30.06	763.5	30.12	765.0	30	— 1.1	68	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.10	688.3	29.83	757.7	19	— 7.2	77	NW	24	10.7		10cs	0	NW		0	0	Cloudy	
Olympia, Washington Ter.	30.32	770.1	30.36	771.1	24	— 4.4	87	NE	3	1.3		0	0			0	0	Clear	
Omaha, Nebraska	28.68	728.5	29.82	757.4	28	— 2.2	77	NW	16	7.2		2c	0	NW		0	0	Clear	
Oswego, New York	29.66	753.4	29.99	761.7	30	— 1.1	78	W	16	7.2		10c	0	W		Inap.	Inap.	Cloudy	
Pembina, Dakota	29.22	742.2	30.16	766.1	— 8	—19.4	100	NW	6	2.7		0	0			0	0	Clear	
Philadelphia, Pa	29.96	761.0	30.01	762.2	31	— 0.6	69	W	8	3.6		0	5ks		NW	0	0	Fair	
Phœnix, Arizona	28.57	725.7	30.35	770.9	54	12.2	80	SW			3		10ks		SW	0.54	13.7	Cloudy	
Pike's Peak, Colorado	17.31	439.7	29.52	749.8	3	—16.1	73	SW	14	6.3			10s		SW	0	0	Cloudy	
Pioche, Nevada	23.72	602.5	29.49	749.0	20	— 6.7	70	N	12	5.4			10s		Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.32	744.7	30.17	766.3	28	— 2.2	66	W	6	2.7		10k	0	NW		Inap.	Inap.	Cloudy	
Port Huron, Michigan	29.41	747.0	30.12	765.0	21	— 6.1	86	W	8	3.6		5cs	0	W		0.01	0.3	Fair	
Portland, Maine	29.62	752.3	29.67	753.6	20	— 6.7	70	NW	4	1.8		0	Haze			0	0	Clear	
Portland, Oregon	30.26	768.9	30.36	771.1	33.0	0.6	79	N	6	2.7		0	0			0	0	Clear	
Prescott, Arizona	24.43	620.5	29.79	756.7	32	0.0	100	S	8	3.6			10n		Calm	0.77	19.6	Light snow.	
Pilot Point, Texas	29.05	737.9	29.89	759.2	40	4.4	91	SE	5	2.2		8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.26	768.6	30.28	769.1	45	7.2	68	N	6	2.7		2c	Sm'e	W	Calm	0	0	Fair	
Red Bluff, California	29.56	750.8	29.93	760.2	48	8.1	28	N	28	12.5		0	0			0	0	Clear	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	52	11.1	93	SE	4	1.8			10s		Calm	0	0	Cloudy	
Rochester, New York	29.37	746.0	30.01	762.2	27	— 2.8	88	W	9	4.0		5k	0	W		0	0	Fair	
Roseburg, Oregon	29.65	753.1	30.26	768.6	24.0	— 4.2	94	N	1	0.4		0	0			0	0	Clear	
Sacramento, California	29.70	754.4	29.78	756.4	48.5	6.4	40	N	23	10.3		1c	0	N		0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.92	760.0	36	2.2	71	S	12	5.4		5cs	0	Calm		0	0	Fair	
St. Marks, Florida	30.24	768.1	30.26	768.6	33	0.6	89	Calm	0	0			10s		Calm	0	0	Cloudy	
St. Paul, Minnesota	29.06	738.1	29.92	760.0	27	— 2.8	90	N	10	4.5			10n		Calm	0.12	3.0	Light snow.	
Salt Lake City, Utah	25.45	646.4	29.78	756.4	23	— 5.0	73	W	4	1.8			10n		Calm	Inap.	Inap.	Light snow.	
San Antonio, Texas	29.21	741.9	29.80	756.9	50	10.0	100	Calm	0	0			10n		Calm	0.07	1.8	Light rain	
San Diego, California	29.80	756.9	29.87	758.7	55	12.8	90	W	14	6.3			10s		Calm	0.89	22.6	Cloudy	
Sandusky, Ohio	29.48	748.8	30.10	766.8	27	— 2.8	76	W	8	3.6		2cs	Haze	Calm	Calm	0.02	0.5	Fair	
Sandy Hook, New Jersey	29.90	759.4	29.94	760.5	32	0.0	69	NW	26	11.6		5k	0	NW		0	0	Fair	
San Francisco, California	29.75	755.6	29.81	757.2	45	7.2	92	W	4	1.8		0	0			0	0	Clear	
Santa Fé, New Mexico	23.23	589.9	29.37	746.0	34	1.1	90	E	14	6.3			10n		Calm	0.04	1.0	Heavy snow	
Savannah, Georgia	30.14	765.5	30.24	768.1	41	5.0	57	W	7	3.1		2cs	8s	W	W	0	0	Cloudy	
Shreveport, Louisiana	29.78	756.4	30.00	762.0	52	11.1	73	S	6	2.7			10s		Calm	0	0	Cloudy	
Silver City, New Mexico	24.07	611 4	30.34	770.6	35	1.7	90	S	17	7.6			10n		Calm	0.61	15.5	Light snow.	
Smithville, North Carolina	30.18	766.6	30.21	767.3	36	2.2	61	NW	4	1.8		0	Haze		Calm	0	0	Clear	
Springfield, Massachusetts	29.72	754.9	29.86	758.4	31	— 0.6	69	NW	12	5.4			10ks		NW	0	0	Cloudy	
Stockton, Texas	26.67	677.4	29.67	753.6	54	12.2	80	SW	4	1.8			10ks		Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.70	754.4	29.76	755.9	28	— 2.2	93	NW	24	10.7		0	0			0	0	Clear	
Toledo, Ohio	29.44	747.8	30.16	766.1	30	— 1.1	78	W	4	1.8		5cs	Haze	Calm	Calm	0.01	0.3	Fair	
Tucson, Arizona					46	7.8	68	SW	11	4.9		5k	0	SW		0.66	16.8	Fair	
Tybee Island, Georgia	30.21	767.3	30.24	768.1	38	3.3	63	SW	4	1.8			10ks		SW	0	0	Cloudy	
Umatilla, Oregon	30.08	762.8	30.57	776.5	17.0	— 8.3	83	SE	6	2.7		0	0			0	0	Clear	
Unalashka, Aleutian Islands					29	— 1.7	78	S			1	0	0			0	0	Clear	
Uvalde, Texas	29.96	735.6	29.78	756.4	50	10.0	93	SE	1	0.4			10s		Calm	0.10	2.5	Clear	
Vicksburg, Mississippi	29.86	758.4	30.13	765.3	46	7.8	80	SE	4	1.8			10n		Calm	Inap.	Inap.	Light rain	
Virginia City, Montana	24.21	614.9	29.69	754.1	— 7	—21.7	63	Calm	0	0		0	0			0.02	0.5	Clear	
Visalia, California	29.41	747.0	29.78	756.7	36	2.2	82	Calm	0	0		0	0			0	0	Clear	
Washington, D. C.	30.00	762.0	30.12	765.0	33	0.6	69	NW	18	8.0		0	5ks		NW	0	0	Fair	
Wickenburg, Arizona					47	8.3	92	S			1		10n		NW	1.91	48.5	Heavy rain.	
Wilmington, N. Carolina	30.10	764.5	30.18	766.8	35	1.7	61	W	3	1.3		0	0			0	0	Clear	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	13	—10.6	81	NE	6	2.7		2k	0	W		0	0	Fair	
Wood's Holl, Mass	29.78	756.1	29.77	756.1	32	0.0	79	NW	18	8.0			10ks		NW	0	0	Cloudy	
Yankton, Dakota	28.67	728.2	30.02	762.5	26	— 3.3	75	NW	18	8.0			10s		NW	0	0	Cloudy	
Yuma, Arizona	29.59	751.6	29.76	755.9	47	8.3	92	W	4	1.8			10s		W	1.21	30.7	Cloudy	
Sub-Series.																			
Fayetteville, Ark.	28.26	717.8	29.66	753.4	45	7.2	76											Cloudy	J. B. Gordon.
Havana, Cuba, W. I.	30.14	765.5	30.19	766.8	61	16.1	76	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.																			Thomas Herran.
Navassa, W. I.	30.03	762.8	30.11	764.8	77	25.0		NE	16.2	7.3									F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	80	26.7	87	E			3	5k	0	E		0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gelliich.
York Factory, B. A.	29.62	752.3	29.68	753.9	—36.0	—37.8		W	10	4.5		0	1s		S	0.02	0.5	Fair	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,769 (?) ft., or 539.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,102 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.2 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,848 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,500 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 6,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,378 ft., or 369.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.76	755.9	44	6.7	42	5.6	100	SW	6	2.7	....	.....	Fog	.....	.....	0	0	.....	.....	Foggy	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	50	10.0	93	NE	5	2.2	....	.....	.....	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.74	755.4	55	12.8	26	— 3.3	88	W	2	0.9	.....	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.29‡	769.4‡	.....	.....	39.5	4.2	68	NE	.....	.....	3	.....	2ck	.....	W	0	0	.....	.....	Fair.....	
Adams, Callao, Peru.....	29.95	760.7	70	21.1	68	20.0	100	SE	.....	.....	2	.....	8	.....	S;E	.....	.....	.....	.....	Foggy	
Alaska, Acapulco, Mexico.....	30.10	764.5	78	25.6	76	24.4	82	Calm	.....	.....	0	.....	2	.....	.....	0	0	Smooth	.....	D. clouds.....	
Alliance, N. 36° 42′, E. 23° 22′.....	30.08‡	764.0‡	.....	.....	62	16.7	72	S	.....	.....	1–2	.....	2	.....	.....	.....	.....	Smooth	.....	Clear.	
Ashuelot, N. 18° 00′, E. 108° 10′.....	30.12‡	765 0‡	.....	.....	72	22.2	76	N	.....	.....	3	.....	0	.....	.....	.....	.....	Long	NE	Fair.....	
Canonicus, New Orleans, La.....	30.09	764.3	43	6.1	53	11.7	100	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	29.89	759.2	34	1.1	32	0.0	100	NW	23	10.3	.....	.....	10	.....	NW	0	0	.....	.....	Overcast.....	
Constitution, N. 47° 28′, W. 14° 01′.....	30.01‡	762.2‡	.....	.....	50	10.0	93	SSW	.....	.....	3	.....	10	.....	WNW	.....	.....	Smooth	NW	Overcast.....	
Despatch, Constantinople, Turkey	30.05‡	763.3‡	.....	.....	51	10.6	86	SSW	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Essex, Stanley, Falkland Isl'ds	29.05	737.9	69	20.6	57	13.9	94	W	.....	.....	4	.....	8	.....	W	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.....	30.25	768.3	69	20.6	31	— 0.6	79	SW	4	1.8	.....	.....	5	.....	S	0	0	.....	.....	Clear.....	
Gettysburg, Genoa, Italy	29.81‡	757.2‡	.....	.....	49	9.4	93	Calm	.....	.....	0	.....	10	.....	.....	Blank	Blank	.....	.....	D. clouds.....	
Hartford, Montevideo, Uruguay...	29.90	759.4	77	25.0	80	26.7	58	N	8.4	3.8	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Lackawana, Panama.....*...	29.76‡	755.9‡	.....	.....	78	25.6	95	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....	29.84†	757.9†	.....	.....	31	— 0.6	89	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Shanghai, China.....*	30.45‡	773.4‡	.....	.....	40	4.4	91	N	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*..	30.21‡	767.3‡	.....	.....	37	2.8	??	NNE	.....	.....	3–4	.....	4	.....	N;E	0	0	.....	.....	D. clouds.....	
New Hampshire, Port Royal, S. C.....	30.21	767.3	43	6.1	43	6.1	67	WSW	7	3.1	.....	.....	8	.....	S	0	0	.....	.....	Fair	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	67	19.4	95	SE	.....	.....	3	.....	8	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.58	776.7	32	0.0	24	— 4.4	100	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	36	2.2	90	SE	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 7° 50′, W. 90° 30′.....	29.94‡	760.5‡	.....	.....	76	24.4	91	E	10	4.5	.....	.....	2	.....	E	0	0	Smooth	SE	Fair	
Powhatan, N. 27° 32′, W. 69° 43′.....	30.23	767.8	64	17.8	64	17.8	53	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy	
Quinnebang, N. 36° 45′, W. 1° 45′.....	29.98‡	761.5‡	.....	.....	61	16.1	82	W	.....	.....	6	.....	2	.....	WSW	.....	.....	Smooth	.....	Clear.	
Ranger. Yokohama, Japan.....*...	30.20‡	767.1‡	.....	.....	46	7.8	89	NE	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair	
Richmond, N. 35° 48′, W. 7° 37′.....	30.18‡	766.6‡	.....	.....	59	15.0	76	N	.....	.....	4	.....	8	.....	W	.....	.....	Smooth	NW	Fair	
Rio Bravo. Brownsville, Texas.....	29.90	759.4	57	13.9	57	13.9	94	SE	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md...	30.08‡	764.0‡	.....	.....	35	1.7	.....	NW	.....	.....	4	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.94	760.5	62	16.7	30	— 1.1	.....	W	12	5.4	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
Supply, N. 32° 08′, W. 16° 59′.....	30.42‡	772.6‡	.....	.....	66	18.9	79	ENE	.....	.....	2	.....	2	.....	NE	.....	.....	Smooth	.....	Clear.....	
Trenton. Villafranca, France *...	29.76‡	755.9‡	.....	.....	55	12.8	93	Calm	.....	.....	0	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Tuscarora. N. 16° 20′, W. 99° 44′.....	29.98‡	761.5‡	.....	.....	76	24.4	86	NW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	29.74‡	755.4‡	.....	.....	28	— 2.2	54	NW	13	5.8	.....	.....	5	.....	.....	.....	.....	.....	.....	Hazy.....	
Wyoming, Smyrna, Turkey.....	30.19	766.8	64	17.8	56	13.3	87	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada N. 15° 36′, W. 98°46′...†*		30.17‡	766.3‡	76	24.4	??	NW			5		0			0			Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 35° 38′, E. 175° 12′		29.76*	755.9*				SE			4				SSE		Long mod'ate	SSE; ESE	Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *Instrumenal error no known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic, N. 42° 47′ W. 52° 28′...†*		29.60‡	751.8‡	38	3.3		W			3		5		W	0	Mod'ate	W	Cloudy	Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *Instrumental error not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 59′, E. 179° 23′...*		29.86‡	758.2‡	68	20.0	45	SSE			6		n		SSE		Rough cross	S	Showery	J. A. Thompson, 2d Off't
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool.....*		29.84‡	757.9‡	35	1.7	100	E			4		8		E	0			Cloudy	Captain Sargent.
S. S. Ohio.....																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland.....																			Capt. Randle.
S. S. Switzerland.....																			Capt. Jackson.
S. S. Vaderland.....																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian.....																			
S. S. Hibernian.....																			Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller.....																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

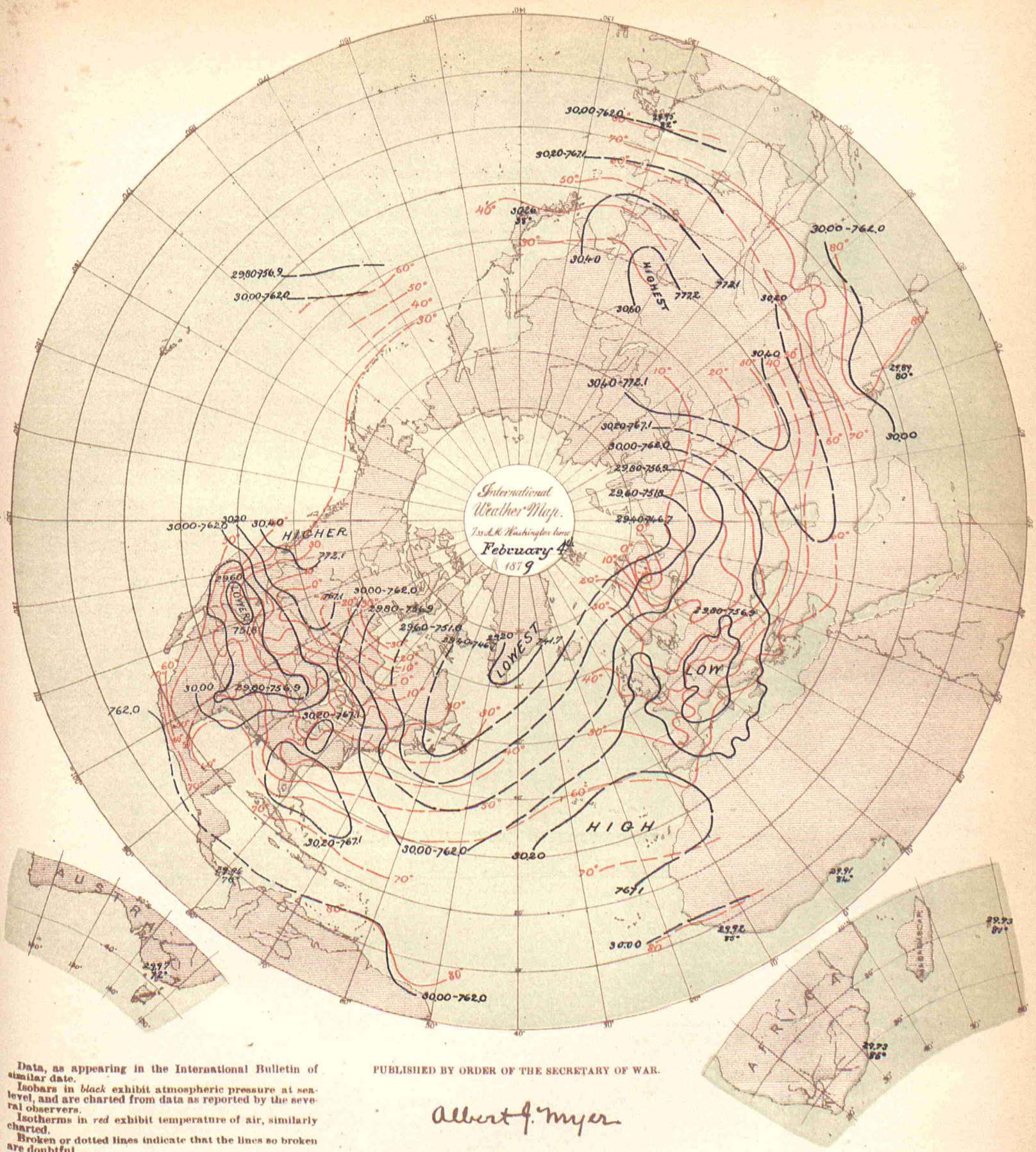
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 5, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.37	771.3	61.0	16.1	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.26	768.6	63.7	17.6	62	WNW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.03	762.7	54.0	12.2	80	WNW	.....	.....	5	.....	10	.....	.....	0.252	6.4	Covered	Tourillere.
La Calle	.....	.....	29.99	761.8	55.9	13.3	86	WSW	.....	.....	4	.....	8	.....	.....	0.283	7.2	Very cloudy	Foufrede.
Tunis	.....	.....	29.89	759.1	57.2	14.0	69	NW	.....	.....	6	.....	10	.....	.....	0.028	0.7	Covered	Jacques.
Sfax	.....	.....	30.01	762.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.08	764.1	50.9	10.5	89	NW	.....	.....	5	.....	5	.....	.....	0.205	5.2	Cloudy	Herbin.
Tebessa	.....	.....	30.00	763.4	44.1	6.7	65	WSW	.....	.....	1	.....	10	.....	.....	0.142	3.6	Raining	Watrin.
Geriville	.....	.....	30.04	763.0	44.2	6.8	97	N	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.18	765.4	52.9	11.6	39	NW	.....	.....	6	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.04	762.9	62.6	17.0	50	NNW	.....	.....	5	.....	5	.....	.....	0.118	3.0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.42	747.3	29.99	761.8	37.0	3.3	92	SW	.....	.....	2	.....	10	.....	.....	0.063	1.6	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.8	30.13	765.4	28.4	— 2.0	84	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.13	739.9	30.05	763.2	34.9	1.6	75	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.77	730.7	30.06	763.6	38.1	3.4	80	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.57	725.6	30.05	763.2	37.0	2.8	93	SE	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.60	726.4	29.99	761.7	35.8	2.1	89	ENE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	29.06	738.2	30.10	764.6	30.6	— 0.8	98	S	.....	.....	1	.....	9	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.80	756.9	29.91	759.8	51.4	10.8	90	WNW	.....	.....	1	.....	10	.....	.....	0.610	15.5	.....	I.R.Hydrographic Office.
Szathmar	29.59	751.5	30.07	763.7	41.4	5.2	76	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.71	754.7	30.00	762.1	34.9	1.6	100	Calm	.....	.....	0	.....	10	.....	.....	0.364	9.25	.....	Karl Stancel.
Trieste	29.84	757.9	29.94	760.5	50.0	10.0	74	NE	.....	.....	1	.....	10	.....	.....	1.362	34.6	Rain & fog	P. Busin.
Vienna	29.33	744.9	30.08	763.9	34.7	1.5	89	Calm	.....	.....	0	.....	10	.....	.....	0.020	0.5	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., *local time*; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., *local time*.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., *local time*.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.39	746.5	29.50	749.3	35.9	2.2		SSW	17	7.6			9			0.010	0.25	Hazy	W. Boswell.
Ardrossan	29.43	747.5	29.44	747.8	42	5.6		S			6		9					Raining	William McNeil.
Armagh, Observatory			29.45	748.0	45.9	7.7		S	16	7.2			7					D. clouds	S. Dall.
Bidston, (Liverpool Obs.)			29.62	752.3	34.8	1.6		SE	26	11.6			10					Raining	John Hartnup.
Bolton, (Sharples)			29.70	754.4	33.3	0.7		S	6	2.7			10					Snowing	Thomas Mackereth.
Bradford, Yorkshire	29.27	743.4	29.67	753.6	37.3	2.9		SW			4		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	81	27.2		NE			2		6					D. clouds	Pvt. J. Surgener, A. H. [C.
Cambridge, Observatory			29.87	758.7	35.0	1.7		S			1		10					Overcast	H. Todd.
Cardington			29.86	758.4	36.0	2.2		S			1		10					Overcast	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	37.2	2.9		SW			1		9					Overcast	Corpl. Daly, R. E.
Dartmoor	28.21	716.5	29.72	754.9	36.0	2.2		SE			4		10					Rain & fog	Alexander Watt.
Donaghadee	29.44	747.8	29.47	748.5	43	6.1		SSW			5		10					Overcast	J. Mac Gowan.
Dover	29.88	758.9	29.90	759.4	36	2.2		SW			4		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.47	748.5	29.70	754.4	46.9	8.3		SSW			5		10					Rain & fog	The Staff.
Fort Napier, (Natal)	27.48	698.0	29.80	756.9	83.4	28.6		E			3		1					D. clouds	Pvt. S. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.65	753.1	29.88	758.9	85	29.4		N			1		4					D. clouds	
Galway, Queen's College			29.41	747.0	50	10.0		SW			4		5					Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.21	767.3	30.26	768.6	55.8	13.2		W			2		2					Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.26	743.2	29.47	748.5	37.9	3.3		SSE			2		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.90	759.4	29.91	759.7	32	0.0		SSW			3		7					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.72	754.9	29.90	759.4	36.8	2.7		SSW			2		10					Overcast	The Staff, for G. B. Airy
Guernsey	29.63	752.6	29.86	758.4	39	3.9		SSE			4		10					Raining	Dr. S. E. Hoskins, F.R.S
Helston	29.86	758.4	29.87	758.7	52	11.1		SW			1		10			0.16	4.1	Misty	M. P. Moyle.
Holyhead	29.49	749.0	29.54	750.3	41	5.0		SSW			5		10					Raining	John Tilston.
Jersey	29.63	752.6	29.93	760.2	38.0	3.3		S			4		10					Misty	J. Fisher.
Kew, Observatory	29.86	758.4	29.90	759.4	37.4	3.0		S	15	6.7			10					Threatening	The Meteorological Of.
Leicester, Museum	29.53	750.0	29.79	756.7	36.0	2.2		S			4		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.85	758.2	29.93	760.2	64	17.8		SE			1		3k					Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.28	743.7	29.38	746.2	43	6.1		SW			1		2					¼ clouded	W. D. Penny.
Nassau, (Bahamas)			30.10	764.5	69.0	20.6		SE			1		5					D. clouds	G. S. Duncombe.
Nottingham, Observatory	29.58	751.3	29.77	756.1	36.2	2.3		SSW			5		10d			0.079	2.01	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.22	742.2	29.76	755.9	33.8	1.0		S			3-4		10					Snowing	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.81	757.2	35	1.7		SSE			2		10					Overcast	H. E. Bellamy.
Plymouth	29.66	753.4	29.74	755.4	43.4	6.3		SSE			4		10					Raining	John Merrifield.
Roche's Point	29.53	750.0	29.57	751.1	50	10.0		WSW			4		8					¾ clouded	W. Kennedy.
Saint Ann's Head	29.45	748.0	29.62	752.5	43	6.1		S			4		10					Foggy	John C. Walker.
Sandwick Manse, (Orkneys)			29.33	745.0	38	3.3		SSE	16	7.2			10					Snowing	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			30.06	763.5	50.6	10.3		SW			1		9					Gloomy	W. H. Lyne.
Sheffield	29.47	748.5	29.76	755.9	37.3	2.9		SSW			2		10			0.26	6.6	Snowing	W. F. Cooper.
Silloth Rectory	28.99?	736.3?	29.02?	737.1?	41.0	5.0	82	SW			3		8			0.265	6.73	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	29.26	743.2	29.66	753.4	34.1	1.2		S			4		10					Raining	Rev. S. J. Perry.
Strathfield Turgiss	29.65	753.1	29.88	758.9	36.8	2.7		S			2		9					Overcast	C.H. Griffith, F.M.S.
Thurso	29.26	743.2	29.32	744.7	39	3.9		SSE			2		10					Gloomy	John Trotter.
Truro, Royal Institution			29.73	755.1	50	10.0		SW			4		10					Gloomy	W. Newcombe.
Valencia, Observatory	29.49	749.0	29.52	749.8	51.0	10.6		SSW	30	13.4			8					D. clouds	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)																			Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.50	749.3	40.0	4.4		SW			5		10s			0.09	0.8	Overcast	Andrew Gibb.
Mauritius, Observatory			29.97	761.1	80.3	26.8	79	E	9.0	4.0			10		ENE	0.09	2.29	Overcast	C. Meldrum.
Melbourne, Observatory	29.86	758.4	29.95	760.7	67.6	19.8	73	WSW	6	2.7			0			0	0	Hazy	R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.21	741.9	42	5.6		SSW			7	10	10	SSW		0.1	3.0		J. Youngclause.
North Unst, (Shetland Is.)			29.22	742.2	38	3.3		SW			6		10						Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	69.4	20.8	83	SE	.....	.....	1	.....	8ks;s	.....	E	Inap	Inap.	Very cloudy	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.95	760.8	30.00	762.0	27.5	— 2.5	85	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
Fanöe	29.94	760.5	29.95	761.0	27.0	— 2.8	87	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.45	747.9	29.49	749.0	17.6	— 8.0	85	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Farôe)	29.03	737.3	29.06	738.2	45.3	7.4	89	S	.....	.....	4	.....	7	.....	.....	.....	.....	.....	
Vestervig	29.72	754.9	29.89	759.2	28.0	— 2.2	85	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.52	749.8	30.07	763.8	36.0	2.2	93	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	29.95	760.8	30.07	763.8	32.0	0.0	82	WSW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.88	758.9	29.96	760.9	45.7	8.6	74	N	.....	.....	4	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.49	749.1	30.09	764.2	33.6	0.9	84	SW	.....	.....	1	.....	10	.....	.....	0.008	0.2	Covered	O. Saillard, Director.
Beauvais, Normal School	29.76	755.9	30.06	763.5	34.5	1.4	73	S	.....	.....	1	.....	10	.....	.....	0.031	0.80	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.16	740.6	30.05	763.3	34.9	1.6	89	NW	.....	.....	2	.....	10	.....	SW	0.28	7.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.27	743.5	30.16	766.5	35.8	2.1	89	S	.....	.....	3	.....	kn	S	S	0.20	5.	.....	M. Marlot, Director.
Bourges, Normal School	29.51	749.5	30.08	764.1	36.0	2.2	93	SW	.....	.....	3	.....	10	SW	SW	0	0	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.54	750.3	29.78	756.5	46.4	8.0	89	S	.....	.....	4	.....	10	.....	S	.....	.....	Raining	M.de Rermaur, Director
Carcassonne, Normal School	29.68	753.8	30.11	764.8	43.5	6.4	74	W	.....	.....	2	.....	10	W	W	0.022	0.55	Covered	September, Director.
Caen, Normal School	29.89	759.1	29.96	761.0	38 8	3.8	76	SSE	.....	.....	3	.....	5	.....	NE	0	0	Cloudy	M. Lair, Director.
Chartres, Normal School	29.43	747.5	30.02	762.4	31.3	— 0.4	81	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.78	756.3	30.11	764.8	32.0	0.0	.....	WNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.66	728.0	30.08	763.9	35.2	1.8	89	NE	.....	.....	1	.....	10	.....	WSW	0.327	8.3	Covered	Alluard, Director.
Commercy, Normal School	29.17	741.0	30.10	764.5	31.5	— 0.3	100	NW	.....	.....	1	.....	10	.....	NW	0	0	Covered	Dr. Coulet, Director.
Commune de Grénasque*	28.80	731.5	29.94	760.5	44.6	7.0	85	W	.....	.....	2	.....	8	NW	W	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	29.30	744.3	30.11	764.8	36.3	2.4	52	WNW	.....	.....	3	.....	10kn	.....	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.81	757.2	30.03	762.8	42.3	6.0	82	SSE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.76	756.0	30.09	764.2	36.1	2.3	89	S	.....	.....	2	.....	10	.....	SSE	0	0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baudry, Director.
Lorient, Naval Observatory	29.84	757.8	29.93	760.3	44.6	7.0	97	SSE	.....	.....	6	.....	.....	.....	S	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	29.00	736.5	30.09	764.2	32.0	0.0	89	E	.....	.....	1	.....	n	.....	W	0	0	.....	M. Galsin, Director
Mirecourt, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Barbier, Director.
Nismes, Normal School	29.77	756.1	29.97	761.3	47.8	8.8	81	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	28.96	735.6	30.06	763.6	38.3	3.5	83	N	.....	.....	3	.....	n	N	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25.04	636.0	.....	.....	26.6	— 3.0	100	W	.....	.....	2	.....	2	.....	.....	0.226	5.8	Slightly cl'dy	Alluard, Director.
Rochefort, Naval Obs'y	30.03	762.8	30.06	763.6	45.9	7.7	86	W	.....	.....	1	.....	10	W	W	0.118	3.0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.04	760.4	30.02	762.6	33.8	1.0	70	S	.....	.....	3	.....	8	.....	SSW	0	0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.88	759.0	29.91	759.8	39.0	3.9	76	S	.....	.....	4	.....	8	S	S	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.90	759.5	30.07	763.7	30.9	— 0.6	77	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	29.13	739.9	30.22	767.6	48.2	9	48	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Versailles Observatory	29.56	750.8	30.05	763.2	33.1	0.6	.....	SW	.....	.....	1	.....	10	.....	.....	0.017	0.42	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.35	745.5	30.10	764.6	36.5	2.5	91	SE	.....	.....	1	.....	10	.....	SE	1.008	25.6	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	761.9	30.02	762.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchésl.
Lyons, Observatory	.....	.....	30.10	764.6	36.5	2.5	75	N	.....	.....	1	.....	10	.....	.....	0.295	7.5	Raining	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.95	633.6	30.26	768.6	37.8	3.2	55	W	.....	.....	2	.....	0	.....	.....	0.169	4.8	.....	M. Cave.
Nice	.....	.....	29.91	759.7	57.2	14.0	80	W	.....	.....	2	.....	5	.....	.....	0	0	½ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.78	756.3	.....	.....	30.2	— 1.0	84	SSW	.....	.....	3	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	29.92	760.0	30.03	762.7	48.6	9.2	61	NW	15.9	6.7	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.41	569.1	.....	.....	26.6	— 3.0	.....	N	.....	.....	2	.....	5	.....	.....	0.283	7.2	Fair	Gen'l de Nansouty.
Toulouse, Observatory	29.41	747.1	30.14	765.5	43.5	6.4	65	WNW	.....	.....	3	.....	4	.....	.....	0	0	.....	M. Mercadier Juller.
Tours	29.85	758.1	30.04	763.1	38.3	3.5	75	SSW	.....	.....	2	.....	8	.....	SSW	0	0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.44	773.1	30.46	773.7	40.3	4.6	86	NNE	5.6	2.5	.....	10ck	.....	WSW	.....	0	0	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Grenasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.6 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.14	740.1	29.98	761.5	36.9	2.7	85	WNW	.....	.....	3	.....	10	.....	.....	0.008	2.	Hazy.....	Prof. Dr. Hoh.
Berlin	29.93	760.1	30.11	764.7	30.6	— 0.8	85	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.57	751.1	30.10	764.6	33.8	1.0	91	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.60	751.7	30.04	763.0	36.0	2.2	86	SW	.....	.....	2	.....	10	SW	.....	0.012	0.3	.....	Albert Sens.
Cassel	29.43	747.6	30.04	763.0	35.2	1.8	70	SE	.....	.....	2	.....	9	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.36	758.4	30.02	762.5	29.7	— 1.3	90	N	.....	.....	3	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	.....	.....	.....	.....	29.1	— 1.6	94	SE	.....	.....	0	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.67	753.7	30.05	763.3	32.5	0.3	.....	N	.....	.....	1	.....	10	.....	.....	0.075	1.9	.....	Physical Society.
Friedrichshafen	28.55	725.1	29.93	760.3	37.4	3.0	90	WNW	.....	.....	5	.....	10	NW	.....	0.028	0.7	Rainy.....	M. Wilhelm.
Hamburg	29.98	761.5	30.06	763.4	25.5	— 3.6	87	SE	.....	.....	1	.....	10	.....	.....	0	0	Hazy.....	Captain F. Hegemann.
Kiel	30.02	762.6	30.04	763.0	26.4	— 3.1	87	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	30.01	762.3	30.10	764.6	20.7	— 6.3	87	SW	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	30.06	763.4	20.3	— 6.5	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.64	752.9	30.08	764.1	32.0	0.0	85	NE	.....	.....	1	.....	10	.....	.....	0.150	3.8	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	30.05	763.2	30.10	764.4	17.6	— 8.0	100	S	.....	.....	2	.....	10s	.....	.....	.....	.....	Foggy.....	Skalweit.
Neufahrwasser	30.10	764.4	30.11	764.8	21.2	— 6.0	79	SSW	.....	.....	1	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.82	757.5	30.13	765.2	30.0	— 1.1	85	E	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.52	749.7	30.09	764.3	35.4	1.9	82	Calm	.....	.....	0	.....	10	.....	.....	0.093	2.36	.....	Imp. University Observatory.
Stuttgart	29.05	737.9	29.98	761.4	35.1	1.7	88	NW	.....	.....	1	.....	10	.....	.....	0.051	1.3	Light rain...	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.45	722.7	30.01	762.3	37.6	3.1	95	Calm	0	0	.....	.....	10k	.....	.....	0.154	3.9	Dense fog....	Dr. Van Bebber.
Wustrow, Naval School	30.05	763.2	30.07	763.8	24.3	— 4.3	100	SSW	.....	.....	2	.....	10s	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.70	754.3	30.09	764.3	61.0	16.1	.....	SW	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Dusty.....	Dr. J. F. J. Schmidt.
.....																			
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.00	762.1	30.06	763.4	75.5	24.2	40	NE	24	10.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Deesa	29.56	750.9	30.04	763.0	81.1	27.3	23	NNW	7.4	3.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Bombay	29.96	761.1	30.00	762.0	78.1	25.6	71	NW	16	7.2	.....	.....	6	SW	.....	0	0	D. clouds.....	
Poonah	27.91	708.9	29.90	759.5	82.5	28.1	.....	ESE	.....	.....	.....	.....	1	NE	.....	0	0	Blue sky	
Lahore	29.25	743.9	30.06	763.5	66.6	19.2	34	W	3.8	1.7	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.44	697.1	29.97	761.2	80.8	27.1	36	NE	8.0	3.6	.....	.....	1	.....	.....	0	0	D. clouds.....	
Roorkee	29.10	739.2	30.02	762.5	71.8	22.1	38	SE	3	1.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Agra	29.44	747.7	30.01	762.3	76.3	24.6	47	N	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.96	735.7	30.00	762.1	84.1	28.9	31	Calm	2.2	1.0	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Lucknow	29.60	751.9	29.98	761.6	75.3	24.1	52	NW	0.6	0.3	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.66	753.3	29.97	761.3	75.9	24.4	41	Calm	0.7	0.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.83	757.6	30.01	762.3	72.5	22.5	54	W	0.6	0.3	.....	.....	0	.....	.....	0	0	Blue sky	
Hazaribagh	27.96	710.2	30.00	762.0	74.0	23.3	22	NW	4.3	1.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.94	760.3	30.02	762.4	76.5	24.7	49	WNW	1.3	0.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.98	761.6	30.01	762.2	70.1	21.2	53	W	4.0	1.8	.....	.....	1	.....	.....	0	0	Blue sky.....	
Goalpara	29.59	751.5	29.98	761.6	73.0	22.8	37	Calm	4.1	1.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.94	760.3	30.03	762.8	69.8	21.0	74	WSW	4.7	2.1	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.68	753.7	30.02	762.6	64.1	17.8	68	NE	1.3	0.6	.....	.....	2	.....	.....	0	0	Blue sky.....	
Jubbulpore	28.64	727.3	30.00	762.0	82.6	28.1	38	Calm	4.7	2.1	.....	.....	0	.....	.....	0	0	Blue sky.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.5 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.0	29.95	760.7	51.6	10.9	72	SE	4.3	1.9	.....	.....	5	.....	.....	0.319	8.1	.....	Prof. Giovanni Clodig.
Padua	29.82	757.5	29.93	760.3	50.0	10.0	75	Calm	0	0	.....	.....	10	.....	.....	0.173	4.4	.....	Prof. Dott. Lorenzoni
Milan	29.41	747.1	29.95	760.7	47.5	8.6	83	W	.....	.....	1	.....	9	SE	.....	0.047	1.2	.....	Prof. Schiaparelli.
Moncalieri	29.05	737.8	29.93	761.5	42.3	5.7	88	SE	3.1	1.4	.....	.....	9	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.02	711.7	29.97	761.2	42.4	5.8	70	N	.....	.....	2	.....	5	SW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.70	754.4	29.89	759.3	48.2	9.0	68	N	5.6	2.5	.....	.....	10	SW	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Florence	29.63	752.5	29.89	759.1	51.3	10.7	92	SE	.....	.....	2	.....	10	.....	.....	0.291	7.4	.....	Cav. F Meucci
Leghorn	29.74	755.3	29.82	757.5	54.9	12.7	80	NE	11.2	5.0	.....	.....	9	W	.....	0.079	2.0	.....	Prof. P. Monte.
Pesaro	29.88	759.0	29.93	760.3	45.3	7.4	97	N	6.9	3.1	.....	.....	10	.....	.....	0.236	6.0	.....	Prof. Luigi Guidi.
Rome	29.67	753.7	29.85	758.2	59.4	15.2	82	S	15.0	6.7	.....	.....	9	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.72	754.8	29.97	761.3	58.8	14.9	79	S	24.2	10.8	.....	.....	9	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.61	752.0	29.80	756.9	58.5	14.7	76	SE	.....	.....	2	.....	9	S	.....	0.169	4.3	.....	Prof. A. Pacinotti.
Cosenza	29.02	737.1	29.92	759.9	58.6	14.8	76	N	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.61	752.2	29.87	758.7	59.7	15.4	61	NE	1.8	0.8	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.2	29.96	761.0	59.7	15.4	92	SSE	3.8	1.7	.....	.....	10	SE	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.86	745.8	29.92	759.9	56.8	13.8	82	W	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.39?	771.9?	30.41?	772.4?	40.8	4.9	74	NE	5.4	2.4	.....	.....	7cs;8	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.13	765.3	30.34	770.6	44.4	6.9	70	NNE	2.4	1.1	.....	.....	10s	.....	W	0	0	Cloudy	S. Takahayashi.
Tokei (Yeddo) Observatory	30.30	769.6	30.37	771.4	36.1	2.3	58	NNW	8.2	3.7	.....	7ok;cs	0	W	.....	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	0	1s	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	25.06	636.5	30.27	768.8	41.0	5.0	55	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.42	620.3	30.06	763.7	53.1	11.7	80	SE	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal.
Mexico, Central Obs'y	23.03	585.0	30.14	765.6	47.1	8.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	60.4	10.2	66	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.76	755.9	29.77	756 2	67.3	19.6	95	S	.....	.....	3	0	0	.....	.....	0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.06	611.1	29.97	761.2	55.0	12.8	67	SSE	.....	.....	6	2	W	W	.....	0	0	Misty	G. Barroeta, M. D.
Vera-Cruz	29.77	756.1	29.80	756.8	98.0	20.0	90	SW	0	0	.....	.....	1s	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.35	593.0	30.10	764.5	41.7	5.4	79	NNE	8.9	4.0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.38	720.7	30.03	762.7	72.5	22.5	74	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.50	757.1	29.94	760.5	67	19.4	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.6	29.91	759.6	29.5	— 1.4	.....	NNE	.....	.....	.....	.....	.....	.....	.....	0.161	4.1	.....	
Groningen	.....	.....	.....	.....	26.8	— 2.9	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.98	761.4	29.98	761.4	26.2	— 3.2	.....	S	.....	.....	2	.....	.....	.....	.....	0.039	1.0	.....	
Hellevoetsluis	30.00	761.9	30.00	761.9	28.2	— 2.1	96	S	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.98	761.6	30.03	762.8	25.8	— 3.7	95	SSE	.....	.....	2	.....	10	.....	.....	0	0	Misty	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.60	751.7	29.65	753.1	35.6	2.0	82	S	30.0	13.4	.....	.....	10	.....	.....	0.059	1.5	.....	
Brönö	29.47	748.4	29.50	749.4	24.8	— 4.0	77	SW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	
Ohristiania	29.57	751.1	29.73	755.1	21.7	— 5.7	85	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.32	744.7	29.36	745.8	16.5	— 8.6	58	SSW	20	9	.....	.....	1	.....	.....	0.055	1.4	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.95	760.8	30.15	765.7	61.5	16.4	92	WSW	8.1	3.6	.....	.....	8	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.24	742.6	30.28	769.1	51.8	11.0	80	WNW	6.9	3.1	.....	.....	10	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.33	770.3	30.41	772.5	64.2	17.9	56	SW	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.93	760.2	30.29	769.4	56.1	13.4	85	SW	16.1	7.2	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.18	766.6	30.25	768.4	63.0	17.2	88	SW	23.7	10.6	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.89	759.2	85.1	29.5	.....	WSW	.....	.....	2	.....	0	.....	.....	1	WSW	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. da Silva Costa, N. 11° 36', W. 15° 41'	.....	.....	30.02	762.4	80.1	26.7	.....	SE	.....	.....	2	.....	4	.....	.....	2	SE	D. Clouds ...	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.82	756.5	83.5	28.6	.....	WNW	.....	.....	3	.....	2	.....	.....	1	.....	D. clouds....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.17	766.2	64.8	18.2	.....	NE	.....	.....	1	.....	10	.....	NE	0	.....	Overcast....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.69	754.2	30.14	765.5	28.0	— 2.2	77	SE	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.71	754.6	30.17	766.3	11.5	—11.4	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.51	749.5	29.76	756.0	21.7	— 5.7	87	SW	20	9	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.61	752.2	29.63	752.6	13.5	—10.3	100	SE	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Kieff	29.52	749.9	30.22	767.6	11.5	—11.4	85	NNE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.10	764.6	30.17	766.4	23.0	— 5.0	84	N	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.00	762.1	30.02	762.6	38.1	3.4	97	NW	7	3	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.50	749.2	30.10	764.6	8.6	—13.0	80	S	11	5	.....	.....	8s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.72	754.8	29.93	760.3	25.5	— 3.6	87	E	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.70	754.3	29.72	754.8	— 1.1	—18.4	82	SW	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.76	730 4	30.23	767.8	38.7	3.7	72	Calm	0	0	.....	.....	5ck	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.21	767.4	30.13	765.3	36.0	2.2	65	S	9	4	.....	.....	8ck;s	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.52	749.9	30.04	763.0	10.6	—11.9	66	NNW	2	1	.....	.....	6	.....	.....	.....	.....	Light clouds	Cand. Fatjanow.
Kasan	29.77	756.2	30.07	763.7	8.4	—13.1	70	Calm	0	0	.....	.....	8	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Ekaterinburg	28.86	733.0	29.88	759.0	18.1	— 7.7	75	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.82	732.1	30.65	778.6	29.5	— 1.4	92	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.10	764.5	30.65	778.5	10.6	—11.9	75	SW	4	2	.....	.....	8	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	30.17	766.2	30.48	774.3	14.9	— 9.5	86	WSW	4	2	.....	.....	10	.....	.....	.....	.....	Snowing	Marks.
Peking, (China)	30.36	771.2	30.50	774.8	27.3	— 2.6	50	S	7	3	.....	.....	6k	.....	.....	.....	.....	Lunar corona	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.96	760 9	53.2	11.8	59	NNW	3.2	1.44	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	762.1	30.06	763.5	58.8	14.9	61	E	2.2	1.00	.....	2	7	N	.....	0.322	8.2	Almost covd.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.5	.....	.....	43.2	6.2	86	S	5.6	2.49	.....	2	4	N	.....	0.118	3.0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.48	708.5	.....	.....	49.5	9.7	68	SW	16.4	7.33	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.00	762.0	30.15	765.8	62.8	17.1	54	SE	3.0	1.33	.....	2	2	E	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.18	741.2	30.10	764.4	49.1	9.5	98	SW	1.8	0.8	.....	.....	10	.....	.....	0.094	2.4	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.9	29.97	761.2	80.6	27.1	76	NNE	0	0	.....	.....	.....	.....	.....	0	0	Very cloudy	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.28	767.9	30.33	770.4	56.5	13.6	75	NW	16.4	7.3	.....	2	4	NW	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.00	762.1	30.10	764.4	77.0	25.0	92	E	8.9	3.99	.....	6ck	3kn	E	E	0.039	1.00	Cloudy	Leonardo de Tejeda, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Haparanda	29.72	755.0	29.76	756.0	—15.9	—26.6	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	29.67	753.7	29.72	755.0	6.8	—14.0	100	N	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	29.65	753.1	29.70	754.4	12.6	—10.8	93	Calm	.....	.....	0	.....	3	.....	.....	0.079	2.0	Snowing...	
Stockholm	29.57	751.1	29.75	755.6	28.8	— 1.8	92	WSW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.82	757.5	29.88	759.0	28.0	— 2.2	87	W	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.64	752.8	29.71	754.7	27.1	— 2.7	85	WSW	8.3	3.7	.....	.....	10	WSW	WSW	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.3	30.03	762.8	38.3	3.5	76	SSW	.....	.....	3	.....	10	.....	.....	0.098	2.5	Covered.....	The Observatory.
Zurich	28.38	720.7	30.08	764.1	33.8	1.0	90	NW	.....	.....	1	.....	10	.....	.....	0.110	2.8	Covered.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, 1—.6 mm.; Thermometer, +0.8 ent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.11	764.7	56.8	13.8	66	SW	9	4.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.00	762.1	63.3	17.4	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered...	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.07	763.8	30.19	766.7	68.0	20.0	64	SW	.....	.....	1	.....	3ks	.....	SE	0.57	14.5	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.64	752.8	29.70	754.4	25.2	— 3.8	75	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.55	750.6	29.88	758.9	22	— 5.6	.....	Calm	0	0	.....	.....	10n	.....	W	Inap.	Inap.	Light snow..	W. R. Bigg.
*Chatham, N. B	29.66	753.4	29.72	754.9	24	— 4.4	89	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.60	751.8	29.65	753.1	22	— 5.6	90	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.65	753.1	29.85	758.2	15.8	— 9.0	98	NW	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	30.17	766.3	30.22	767.6	31.0	— 0.6	89	Calm	.....	.....	.....	8ck	0	.....	.....	0	0	Fair...	W. H. Bevis.
*Father Point, Quebec	29.77	756.1	29.79	756.7	17	— 8.3	87	SW	25	11.2	.....	8k	2s	NW	SW	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.74	755.4	29.80	756.9	18.6	— 7.4	77	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.12	739.6	30.07	763.9	—14	—25.6	100	SE	4	1.8	.....	.....	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	28.56	725.4	29.71	754.6	24	— 4.4	.....	E	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Light snow..	James Grant.
*Halifax, N. S	29.55	750.6	29.69	754.1	20	— 6.7	87	W	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.38	746.2	29.77	756.1	30.7	— 0.7	78	E	.....	.....	1	10cs	0	E	.....	0	0	Overcast....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.48	748.8	29.84	757.9	24	— 4.4	86	E	3	1.3	.....	10cs	Sm'e	Calm	E	Inap.	Inap.	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.49	749.0	29.63	750.0	30.4	— 0.9	80	W	5	2.2	.....	6ck	0	W	.....	0	0	Fair...	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.69	754.1	29.90	759.4	22	— 5.6	86	W	1	0.4	.....	5k	Sm'e	W	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.10	739.1	29.84	757.9	17	— 8.3	92	NE	7	3.1	.....	5k	5ks	NE	NE	Inap.	Inap.	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.08	737.3	29.82	757.4	24.4	— 4.2	84	Calm	.....	.....	.....	.....	10n	.....	.....	0.20	5.1	Snowing.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.00	736.6	29.72	754.9	26	— 3.3	100	NE	5	2.2	.....	.....	10n	.....	.....	0.13	3.3	Light snow..	H. Morgan.
Port Hastings, N. S	29.53	750.0	29.68	753.3	20.9	— 6.2	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.05	737.3	29.71	754.6	26	— 3.3	97	NE	10	4.5	.....	.....	10n	.....	NE	0.08	2.0	Heavy snow	M. Payne.
*Quebec, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.37	746.0	29.87	758.7	10	— 4.5	89	W	2	0.9	.....	.....	8s	.....	W	0	0	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	29.98	761.5	30.03	762.8	36	2.2	87	W	.....	.....	2	0	0	.....	.....	0.02	0.5	Clear.....	Dr. Gove.
St. John, N. B	29.62	752.3	29.79	756.7	20	— 6.7	85	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.04	737.6	29.79	756.7	24	— 4.4	85	NE	12	5.4	.....	.....	10s	.....	.....	0.14	3.6	Light snow..	K. Stewart.
Stayner, Ontario	28.97	735.8	29.78	756.4	24	— 4.4	88	Calm	0	0	.....	.....	10n	.....	Calm	0.14	3.6	Light snow..	R. J. Cole.
Stratford, Ontario	28.38	720.8	29.72	754.9	24.0	— 4.4	96	SE	6.0	2.7	.....	.....	10s	.....	.....	0.05	1.3	Light snow.	C. J. MacGregor, M. A.
*Sydney, C. B	29.49	749.0	29.63	750.0	28	— 2.2	83	W	9	4.0	.....	8c	2ks	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.37	746.0	29.77	756.1	29	— 1.7	87	E	9	4.0	.....	.....	10n	.....	E	0.06	1.5	Light snow..	Magnetic Observatory.
Windsor, N. S	29.62	752.3	29.72	754.9	20.5	— 6.4	93	W	9	4.0	.....	.....	1ks	.....	.....	0	0	Fine.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	25.0	— 3.9	100	S	.....	.....	.....	5k?	10s?	.....	.....	0	0	Fair?.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch s.	Rain-fall or melted snow in the past 24 hours. Millim rs.	Weather.	Observer.
Albany, New York	29.68	753.9	29.93	760.2	24	— 4.4	74	W	1	0.4	.....	8cs	Haze	W	.....	0	0	Fair.....	
Alpena, Michigan	29.13	739.9	29.50	756.9	24	— 4.4	87	NE	15	6.7	.....	.....	10n	.....	Calm	0.17	4.3	Light snow..	
Atlanta, Georgia	28.56	725.4	29.09	754 1	50	10.0	90	SW	22	9.8	.....	.....	10n	.....	SW	0.43	10.9	Light rain...	
Atlantic City, New Jersey	29.97	761.2	29.99	761.7	33	0.6	79	SE	6	2.7	.....	.....	10s	....	Calm	0	0	Cloudy.....	
Augusta, Georgia	29.65	753.1	29.84	767.7	46	7.8	69	S	2	0.9	.....	.....	10n	.....	Calm	0.21	5.3	Light rain...	
Baltimore, Maryland	29.82	757.4	29.87	758.7	34	1.1	79	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	32	0.0	89	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Bismarck, Dakota	28.06	712.7	29.91	759.7	2	—16.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Boerne, Texas	28.51	724.1	29.88	758.9	36	2.2	80	N	.....	.....	1	.....	10s	.....	Calm	0.20	5.1	Cloudy.....	
Boise City, Idaho	27.30	693.4	30.26	768.6	13	—10.6	71	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Boston, Massachusetts	29.78	756.4	29.95	760.7	23	— 5.0	66	W	5	2.2	.....	8ck	0	W	.....	0	0	Fair.....	
Brackettville, Texas	28.85	732.8	29.91	759.7	39	3.9	73	NE	12	5.4	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy.....	
Breckenridge, Minnesota	28.96	735.6	30.06	763.5	-- 1	—18.3	91	W	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brownsville, Texas	29.81	757.2	29.87	758.7	65	18.3	94	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Buffalo, New York	28.98	736.1	29.69	754.1	28	— 2.2	77	NE	8	3.6	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.62	752.3	29.92	760.0	24	— 4.4	74	S	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.	
Cairo, Illinois	29.38	746.2	29.78	756.4	37	2.8	90	NW	18	8.0	.....	.....	10s	.....	NW	1.11	28.2	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.06	636.5	29 86	758.4	39	3.9	73	NW	4	1.8	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy.....	
Camp Verde, Arizona	.....	.....	.....	.....	29	— 1.7	56	N	.....	.....	1	0	0	.....	.....	0.02	0.5	Clear.....	
Campo, California	27.40	696.0	29.97	761.2	37	2.8	80	E	16	7.2	.....	0	0	.....	.....	0.08	2.0	Clear.	
Cape Hatteras, N. Carolina	29.99	761.7	29.99	761.7	41	5.0	91	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	40	4.4	73	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Cape Lookout, N. Carolina	29.95	760.7	29.96	761.0	48	8.9	78	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Cape May, New Jersey	29.89	759.2	29.92	760.0	36	2.2	80	SE	16	7.2	.....	.....	10s	.....	Calm	0	0	Threatening	
Castroville, Texas	29.19	741.4	29.93	760.2	41	5.0	74	NW	16	7.2	.....	10c	0	Calm	.....	0	0	Cloudy.....	
Charleston, South Carolina	29.91	759.7	29.97	761.2	54	12.2	61	SW	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy.....	
Cheyenne, Wyoming	23.82	605.0	29.76	755.9	— 3	—19.4	100	W	4	1.8	.....	0	5s	.....	Calm	0.08	2.0	Fair.....	
Chicago, Illinois	29.05	737.9	29.76	755.9	32	0.0	79	NE	15	6.7	.....	.....	10s	.....	NE	0.02	0.5	Cloudy.....	
Cincinnati, Ohio	28.84	732.5	29.48	748.8	41	5.0	91	N	8	3.6	.....	.....	10n	.....	N	0.93	23.6	Light rain...	
Cleveland, Ohio	28.87	733 3	29.60	751.8	33	0.6	79	SE	8	3.6	.....	.....	10n	.....	Calm	0.18	4.6	Heavy snow	
Coleman City, Texas	28.26	717.8	30.03	762.8	27	— 2.8	88	N	10	4.5	.....	....	10s	.....	N	0.26	6.6	Cloudy.	
Columbus, Ohio	28.66	728.0	29.49	749.0	35	1.7	90	NE	8	3.6	.....	.....	10n	.....	Calm	0.31	7.9	Heavy snow	
Corpus, Texas	28.11	714.0	29.88	758.9	29	— 1.7	77	Calm	0	0	.....	10k	0	Calm	.....	0.04	1.0	Cloudy.....	
Corsicana, Texas	29.56	750.8	30.04	763.0	35	1.7	70	NW	7	3.1	.....	.....	10s	.....	NW	0.17	4.3	Cloudy.....	
Davenport, Iowa	29.24	742.7	29.91	759.7	27	— 2.8	88	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Deadwood, Dakota	25.22	640.6	.....	.....	— 2	—18.9	67	W	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Decatur, Texas	28.86	733.0	30.10	764.5	31	— 0.6	76	NW	8	3.6	.....	.....	10s	.....	NW	0.56	14.2	Cloudy.....	
Denison, Texas	29.18	741.2	30.00	762.0	34	1.1	79	NW	8	3.6	.....	5k	5s	NW	NW	0.40	10.2	Cloudy.....	
Denver, Colorado	24.65	626.1	29.87	758.7	1	—17.2	71	S	4	1.8	.....	0	0	.....	.....	0.15	3.8	Clear	
Des Moines, Iowa	29.07	738.4	30.01	762.2	18	— 7.8	54	N	6	2.7	.....	0	8s	.....	N	0	0	Cloudy.....	
Detroit, Michigan	28.96	735.6	29.64	752.8	29	— 1.7	89	NE	9	4.0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow..	
Dodge City, Kansas	27.40	696.0	29.85	758.2	17	— 8.3	83	N	8	3.6	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Dubuque, Iowa	29.22	742.2	29.94	760.5	27	— 2.8	64	NW	7	3.1	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy.....	
Duluth, Minnesota	29.27	743.4	30.01	762.2	8	—13.3	78	SW	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Eagle Pass, Texas	29.22	742.2	29.97	761.2	46	7.8	69	NW	.....	.....	1	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Eastport, Maine	29.75	755.6	29.82	757.4	18	— 7.8	68	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	
Edinburg, Texas	.....	.....	.....	.....	61	16.1	94	NW	.....	.....	1	.....	10ks	.....	NW	0	0	Cloudy.....	
El Paso, Texas	26.07	662.2	.....	.....	54	12.2	54	W	4	1.8	.....	5k	0	W	.....	0.09	2.3	Fair.....	
Erie, Pennsylvania	28.92	734.6	29.64	752.8	31	— 0.6	89	NE	4	1.8	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Escanaba, Michigan	29.20	741.7	29.91	759.7	11	—11.7	80	NW	2	0.9	.....	5k	0	NW	.....	0.01	0.3	Fair...	
Florence, Arizona	28.47	723.1	30.07	763.8	48	8.9	93	Calm	0	0	.....	.....	10ks	.....	SW	0.29	7.4	Cloudy.....	
Fort Buford, Dakota	.....	.....	.....	.....	3	—16.1	73	W	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Craig, New Mexico	25.27	641.8	29.34	745.2	40	4.4	73	S	7	3.1	.....	2k	0	S	.....	0.22	5.6	Clear.....	
Fort Davis, Texas	25.06	636.5	30.02	762.5	35	1.7	90	NE	1	0.4	.....	.....	Fog	.....	.....	0.15	3.8	Foggy	
Fort Gibson, Indian Ter	29.39	746.5	29.95	760.7	32	0.0	89	N	12	5.4	.....	.....	10s	.....	N	0.78	19.8	Cloudy.....	
Fort Griffin, Texas	28.78	731.0	30.12	765 0	29	— 1.7	78	N	12	5.4	.....	.....	10s	.....	N	0.52	13.2	Cloudy.....	
Fort Keogh, Montana	27.44	697.0	.....	.....	10	—12.2	79	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort McKavett, Texas	27.77	705.4	29.79	756.7	30	— 1.1	68	N	8	3.6	.....	.....	10s	....	N	0.08	2.0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.97	761.2	27	— 2.8	88	NW	12	5.4	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy.....	
Fort Stevenson, Dakota	25.06	712.7	.....	.....	—13	—25.0	100	W	.....	.....	1	0	1s	.....	W	0	0	Fair.....	
Fredericksburg, Texas	28.23	717.0	29.84	757.9	37	2.8	71	N	2	0.9	.....	.....	10ks	.....	Calm	0.03	0.8	Cloudy.....	
Galveston, Texas	29.85	758.2	29.89	759.2	54	12.2	74	N	18	8.0	.....	0	8ks	.....	N	0.13	3.3	Cloudy	
Graham, Texas	28.96	735.6	30.06	764.0	27	— 2.8	88	NW	8	3.6	.....	.....	10s	.....	W	0.35	8.9	Cloudy.	
Grand Haven, Michigan	29.13	739.9	29.81	757.2	24	— 4.4	74	NE	10	4.5	.....	.....	10s	.....	NE	0.13	3.3	Cloudy.....	
Indianapolis, Indiana	28.78	731.0	29.55	750.6	36	2.2	90	NW	8	3.6	.....	.....	10n	.....	Calm	0.59	15.0	Light rain...	
Indianola, Texas	29.90	759.4	29.93	760.2	51	10.6	65	N	26	11.6	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy.....	
Jacksboro, Texas	28.87	733.3	30.06	763.5	30	— 1.1	78	N	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Jacksonville, Florida	30.00	762.0	30.02	762.5	55	12.8	68	SE	6	2.7	.....	5k	0	SW	.....	0	0	Fair.....	
Keokuk, Iowa	29.22	742.2	29.86	758.4	28	— 2.2	82	N	12	5.4	.....	1ck	1s	W	N	0.01	0.3	Clear.....	
Key West, Florida	30.03	762.8	30.06	763.5	70	21.1	80	S	12	5.4	.....	3c;k	0	SW;S	.....	0	0	Fair	
Kittyhawk North Carolina	29.93	760.2	29.96	761.0	39	3.9	82	S	7	3.1	.....	10cs	0	W	.....	0	0	Cloudy	
Knoxville, Tennessee	28.59	726.2	29.56	750.8	49	9.4	85	SW	24	10.7	.....	.....	10s	.....	SW	1.21	30.7	Threatening	
La Crosse, Wisconsin	29.18	741.2	29.96	761.0	18	— 7.8	84	N	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear.....	
La Mesilla, New Mexico	28.98	659.9	30.13	765.3	42	5.6	91	Calm	0	0	.....	....	10s	.....	NW	0.27	6.9	Cloudy.....	
Laredo, Texas	29.51	749.5	29.86	758.4	51	10.6	86	N	11	4.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Leavenworth, Kansas	29.10	739.1	29.99	761.7	26	— 3.3	75	N	13	5.8	.....	1ck	3s	W	.....	0	0	Fair	
Los Angeles, California	29.68	753.9	30.03	762.8	43.5	6.4	83	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	28.95	735.3	29.50	749.3	41	5.0	82	NW	11	4.9	.....	.....	10s	.....	Calm	1.31	33.3	Cloudy	
Lynchburg, Virginia	29.11	739 4	29.80	756.9	37	2.8	80	SE	4	1.8	.....	.....	10n	.....	Calm	0.50	12.7	Light snow.	
Madison, Wisconsin	28.86	733.0	29.89	759.2	24	— 4.4	74	NW	7	3.1	.....	.....	10s	....	Calm	0.14	3.6	Cloudy.	
Marquette, Michigan	29.11	739.4	29.84	757.9	22	— 5.6	72	W	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Mason, Texas	28.87	720.6	30.22	767.6	31	— 0.6	78	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy.....	
Memphis, Tennessee	29.48	748.8	29.79	756.7	45	7.2	76	NW	12	5.4	.....	.....	10s	.....	NW	1.40	35.6	Cloudy.....	
Milwaukee, Wisconsin	29.09	738.9	29 85	758.2	24	— 4.4	74	NW	16	7.2	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy.....	
Mobile, Alabama	29.81	757.2	29.86	758.4	65	18.3	89	SW	12	5.4	.....	.....	10s	.....	SW	0.11	2.8	Cloudy.....	
Montgomery, Alabama	29.54	750.3	29.77	756.1	60	15.6	88	S	14	6.3	.....	.....	10n	....	SW	0.23	5.8	Light rain..	
Morgantown, West Virginia	28.48	722.1	29.46	748.3	39	3.9	91	E	12	5.4	.....	.....	10n	.....	Calm	0.22	5.6	Light rain..	
Mt. Washington, N. H.	25.29	691.6	29.65	753.1	4	—15.6	74	NW	3	1.3	.....	8k	5ks	Calm	Calm	0	0	Fair.....	
Nashville, Tennessee	29.13	739.9	29.66	753.4	49	9.4	85	W	15	6.7	.....	.....	10ks	.....	W	1.30	33.0	Cloudy.....	
New Haven, Connecticut	29.86	758.4	29.98	761.5	27	— 2.8	88	W	1	0.4	.....	10cs	Rz;fog	Calm	Calm	0	0	Hazy.....	
New London, Connecticut	29.94	760.5	29.99	761.7	26	— 3.3	75	Calm	0	0	.....	9cs	0	W	....	0	0	Cloudy..	
New Orleans, Louisiana	29.81	757.2	29.87	758.7	60	15.6	82	NW	12	5.4	.....	.....	10n	.....	W	0.01	0.3	Light rain....	
Newport, Rhode Island	29.94	760.5	30.00	762.0	28	— 2.2	77	Calm	0	0	.....	8ck	2s	W	Calm	0	0	Fair	
New York, New York	29.79	756.7	29.98	761.5	32	0.0	69	SE	4	1.8	.....	Haze	Sm'e	Calm	.....	0	0	Dense smoke	
Norfolk, Virginia	29.86	758.4	29.92	760.0	39	3.9	82	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.10	688.3	29.94	760.5	3	—16.1	73	NW	12	5.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	30.21	767.3	30.26	768.3	27	— 2.8	88	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.88	733.5	30.06	763.5	14	—10.0	82	NW	9	4.0	.....	2c	0	Calm	.....	0	0	Clear	
Oswego, New York	29.52	749.8	29.85	758.2	33	0.6	61	SE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Pembina, Dakota	29.11	739.4	30.06	763.5	—11	—23.9	100	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	29.90	759.4	29.95	760.7	30	— 1.1	78	SW	4	1.8	.....	.....	10s;sme	.....	.....	0	0	Cloudy	
Phœnix, Arizona	28.78	731.0	30.62	777.7	46	7.8	84	NW	.....	.....	1	2k	0	W	.....	0.21	5.3	Fair	
Pike's Peak, Colorado	17.19	436.6	29.40	746.7	—14	—25.6	100	W	8	3.6	.....	.....	10n	.....	W	0.83	21.1	Light snow	
Pioche, Nevada	23.96	608.6	29.73	755.1	9	—12.8	78	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.76	730.5	29.58	751.3	32	0.0	89	E	6	2.7	.....	.....	10n	.....	Calm	0.08	2.0	Light snow	
Port Huron, Michigan	29.00	736.6	29.68	753.9	26	— 3.3	88	NE	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Portland, Maine	29.87	758.7	29.92	760.0	20	— 6.7	85	Calm	0	0	.....	0	Fog	.....	.....	0	0	Clear	
Portland, Oregon	30.23	767.8	30.33	770.4	28.0	— 2.2	77	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.62	625.3	29.98	761.5	21	— 6.1	71	W	1	0.4	.....	0	0	.....	.....	0.17	4.3	Clear	
Pilot Point, Texas	29.04	737.6	29.88	758.9	41	5.0	82	SE	14	6.3	.....	0	2s	.....	SE	0.01	0.3	Fair	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	62	16.7	77	SE	16	7.2	.....	5cs	0	SW	.....	0	0	Fair	
Red Bluff, California	29.76	755.9	30.13	765.3	35	3.3	45	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.70	754.4	29.91	759.7	61	16.1	77	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.14	740.1	29.77	756.1	27	— 2.8	88	SE	10	4.5	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Roseburg, Oregon	29.73	755.1	30.34	770.6	24.5	— 4.2	94	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
Sacramento, California	30.01	762.2	30.10	764.5	37	2.8	57	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.23	742.4	29.82	757.4	32	0.0	79	N	14	6.3	.....	.....	10s	.....	Calm	0.69	17.5	Cloudy	
St. Marks, Florida	29.97	761.2	29.98	761.5	52	11.1	93	S	7	3.1	.....	2c	2s	W	Calm	0	0	Fair	
St. Paul, Minnesota	29.10	739.1	30.00	762.0	11	—11.7	79	NW	2	0.9	.....	0	0	.....	.....	0.11	2.8	Clear	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	10	—12.2	58	SE	4	1.8	.....	9c	0	Calm	.....	0.01	0.3	Cloudy	
San Antonio, Texas	29.29	744.0	29.89	759.2	43	6.1	67	N	12	5.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
San Diego, California	29.94	760.5	30.02	762.5	50	10.0	90	N	11	4.9	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Sandusky, Ohio	29.93	734.8	29.60	751.8	38	3.3	81	S	4	1.8	.....	.....	10n	.....	Calm	0.30	7.6	Light snow	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	30	— 1.1	78	SW	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
San Francisco, California	30.04	763.0	30.10	764.5	44	6.7	68	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Santa Fé, New Mexico	22.96	583.2	29.50	749.3	25	— 3.9	87	SE	5	2.2	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Savannah, Georgia	29.86	758.4	29.95	760.7	55	12.8	74	S	12	5.4	.....	.....	10n	.....	W	Inap.	Inap	Light rain	
Shreveport, Louisiana	29.71	754.6	29.94	760.5	41	5.0	82	NW	4	1.8	.....	.....	10s	.....	Calm	0.39	9.9	Cloudy	
Silver City, New Mexico	24.16	613.6	30.45	773.4	35	1.7	80	W	5	2.2	.....	.....	10s	.....	Calm	0.41	10.4	Threatening	
Smithville, North Carolina	29.95	760.7	29.98	761.5	49	9.4	93	SW	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.82	757.4	29.96	761.0	25	— 3.9	63	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Stockton, Texas	26.92	683.8	29.92	760.0	30	— 1.1	78	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.86	758.9	29.93	760.2	24	— 4.4	48	NW	10	4.5	.....	8ck	0	W	.....	0	0	Fair	
Toledo, Ohio	28.91	734.3	29.60	751.8	32	0.0	89	NE	12	5.4	.....	.....	10n	.....	Calm	0.03	0.8	Heavy snow	
Tucson, Arizona	.....	.....	.....	.....	47	8.3	55	NW	4	1.8	.....	2k	0	W	.....	0	0	Fair	
Tybee Island, Georgia	29.94	760.5	29.97	761.2	53	11.7	93	S	10	4.5	.....	.....	10ks;s	.....	W;S	0.01	0.3	Threatening	
Umatilla, Oregon	29.93	760.2	30.46	773.7	28.0	— 5.0	86	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Unalashka, Aleutian Islands	.....	.....	.....	.....	37	2.8	71	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.01	736.8	29.96	761.0	41	5.0	57	N	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Vicksburg, Mississippi	29.60	751.8	29.85	758.2	53	11.7	67	NW	12	5.4	.....	.....	10s	.....	NW	1.20	30.5	Cloudy	
Virginia City, Montana	24.18	614.2	29.66	753.4	2	—16.7	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.71	754.6	30.10	764.5	37	2.8	75	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.71	754.6	29.82	757.4	33	0.6	85	E	3	4.3	.....	.....	10n	.....	Calm	0.01	0.3	Sleeting	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	61	NW	.....	.....	1	0	0	.....	.....	0.23	5.8	Clear	
Wilmington, N. Carolina	29.85	758.2	29.93	760.2	48	8.9	77	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Winnemucca, Nevada	25.73	653.5	30.09	764.3	9	—12.8	78	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	28.79	731.3	30.20	767.1	8	—13.3	66	W	1	0.4	.....	8cs	0	NW	.....	Inap.	Inap.	Fair	
Yankton, Dakota	29.02	760.0	29.96	761.0	29	— 1.7	78	W	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.86	758.4	30.03	762.8	50	10.0	79	W	14	6.3	.....	5cs	5s	Calm	W	0	0	Cloudy	
Sub-Series.																			
Fayetteville, Ark.	28.31	719.1	29.77	756.1	28	— 2.2	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.03	762.8	30.08	764.0	66	18.9	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.96	761.5	30.06	763.5	79	26.1	.....	NE	7.5	3.4	.....	.....	.....	.....	.....	0	0	Fair	F. M Everett.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	78	25.6	91	E	.....	.....	2	4k	5ks	E	.....	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.84	757.9	29.89	759.2	—40.5	—40.3	.....	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft,. or 492.0 (?) m.; Grahama, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,110.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,775.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.32 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.02	762.5	40	4.4	42	5.6	46	SSW	3	1.3	.....	.....	0	.....	.....	0	0	.....	A.....	Clear	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	62	16.7	88	S	20	8.9	.....	.....	.....	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.95	760.7	63	17.2	24	— 4.4	48	W	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.32‡	770.1‡	.....	.....	37.4	3.0	53	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Adams. Callao, Peru.....	29.96	761.0	72	22.2	71	21.7	95	SE	.....	.....	2	.....	5	.....	S;E	.....	.....	.....	.....	Misty.....	
Alaska, Acapulco, Mexico.....	30.05	763.3	79	26.1	78	25.6	78	WNW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Alliance, N. 37° 10′, E. 19° 48′.....	30.02‡	762.5‡	.....	.....	61	16.1	88	SW	.....	.....	2	.....	10	.....	S;W	.....	.....	Smooth	....	Overcast.....	
Ashuelot, N. 21° 20′, E. 108° 59′.....	30.16‡	766.1‡	.....	.....	62	16.7	88	NNE	.....	.....	1	.....	5	.....	.....	.....	.....	Smooth	.....	Misty.....	
Canonicus, New Orleans, La.....	29.85	758.9	46	7.8	57	13.9	94	NW	.....	.....	4	.....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	29.40	746.7	29	— 1.7	28	— 2.2	100	ENE	4	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Constitution, N. 47° 04′, W. 14° 40′.....	29.87‡	758.7‡	.....	.....	54	12.2	100	WSW	.....	.....	5	.....	9	.....	Calm	.....	.....	Long	W	Overcast.....	
Despatch, Constantinople, Turkey	30.11‡	764.8‡	.....	.....	54	12.2	74	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
Essex, Stanley, Falkland Isl'ds	29.29	744.0	63	17.2	52	11.1	100	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.....	30.09	764.3	72	22.2	43	6.1	67	SSE	8	3.6	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Gettysburg, Genoa, Italy	29.84‡	757.9‡	.....	.....	50	10.0	86	NE	.....	.....	3	.....	8	.....	NE	Blank	Blank	.....	.....	Cloudy.....	
Hartford, Montevideo, Uruguay...	29.69	754.1	79	26.1	77	25.0	61	NW	24.0	10.7	.....	.....	10	.....	.....	0	0	Smooth	.....	Cloudy.....	
Lackawana, Panama.....*	29.70‡	754.4‡	.....	.....	79	26.1	91	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Fair	
Michigan, Erie, Pa.....	29.92†	760.0†	.....	.....	28	— 2 2	88	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Shanghai, China.....*	30.43‡	772.9‡	.....	.....	41	5.0	83	N	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Cloudy	
Monongehela, Yokohama, Japan ....*	30.33‡	770.4‡	.....	.....	34	1.1	100	NNW	.....	.....	5	.....	0	.....	.....	0	0	.....	.....	Blue sky.....	
New Hampshire, Port Royal, S. C.....	29.95	760.7	56	13.3	53	11.7	80	S	13	5.8	.....	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....	30.02†	762.5†	.....	.....	70	21.1	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.48	774.2	34	1.1	24	— 4.4	100	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	37	2.8	71	NE	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Pensacola, S. 8° 30′, W. 92° 00′.....	29.94‡	760.5‡	.....	.....	76	24.4	82	SE	14	6.3	.....	.....	8	.....	SE	0	0	Mod'ate	SE	Fair	
Powhatan, N. 24° 28′, W. 68° 15′.....	30.26	768.6	71	21.7	71	21.7	55	E	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Fair.....	
Quinnebaug, N 39° 00′, E. 0° 30′.....	30.08‡	764.0‡	.....	.....	54	12.2	67	W	.....	.....	5	.....	5	.....	W	.....	.....	Smooth	.....	Fair	
Ranger. Yokohama, Japan.....*	30.35‡	770.9‡	.....	.....	41	5.0	66	NW	.....	.....	4	.....	5	.....	Calm	.....	.....	Smooth	.....	Fair.....	
Richmond, Gibraltar.....	30.33‡	770.4‡	.....	.....	60	15.6	71	W	.....	.....	4	.....	0	.....	.....	.....	.....	Smooth	W	Clear	
Rio Bravo, Brownsville, Texas.....	29.77	756.1	66	18.9	65	18.3	100	ENE	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	29.84‡	757.9‡	.....	.. ..	35	1.7	90	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
St. Louis, League Island, Pa	29.85	758.2	44	6.7	30	— 1.1	.....	SE	6	2.7	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Supply, N. 30° 53′, W. 18° 16′.....	30.41‡	772.4‡	.....	.....	66	18.9	79	ESE	.....	.....	2-3	.....	2	.....	ESE	.....	.....	Smooth	.....	Clear.....	
Trenton Villafranca, France *...	29.86‡	758.4‡	.....	.....	57	13.9	81	Calm	.....	.....	0	.....	5	.....	Calm	0.10	2.5	.....	.....	Fair.....	
Tuscarora, Acapulco, Mexico.....	29.94‡	760.5‡	.....	.....	77	25.0	77	NNW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.03‡	762.8‡	.....	.....	23	— 5.0	73	WNW	4	1.8	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Wyoming, Smyrna, Turkey.....	30.29	769.4	71	21.7	59	15.0	100	SSE	.....	.....	1-2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada N. 16° 02', W. 98° 04' †*		30.11‡	764.8‡	79	26.1	??	W			3		0			0	Light		Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 31° 39', E. 178° 17'.....*		29.97	761.2				E			5		Fog		E		Long mod'ate	ESE;E		R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *Instrumental error not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic, N. 45° 00' W. 45° 30'....†*		29.17‡	740.9‡	54	12.2		SW			4?		2		W	Blank	High	NE	Cloudy?	Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *Instrumental error not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 59', E. 175° 34'....*		29.58‡	751.3‡	64	17.8	100	WSW			6		ks		SW		Rough cross	S;W	Showery.....	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool		29.69‡	754.1‡	37	2.8	90	S			6		8		S	0			Cloudy	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

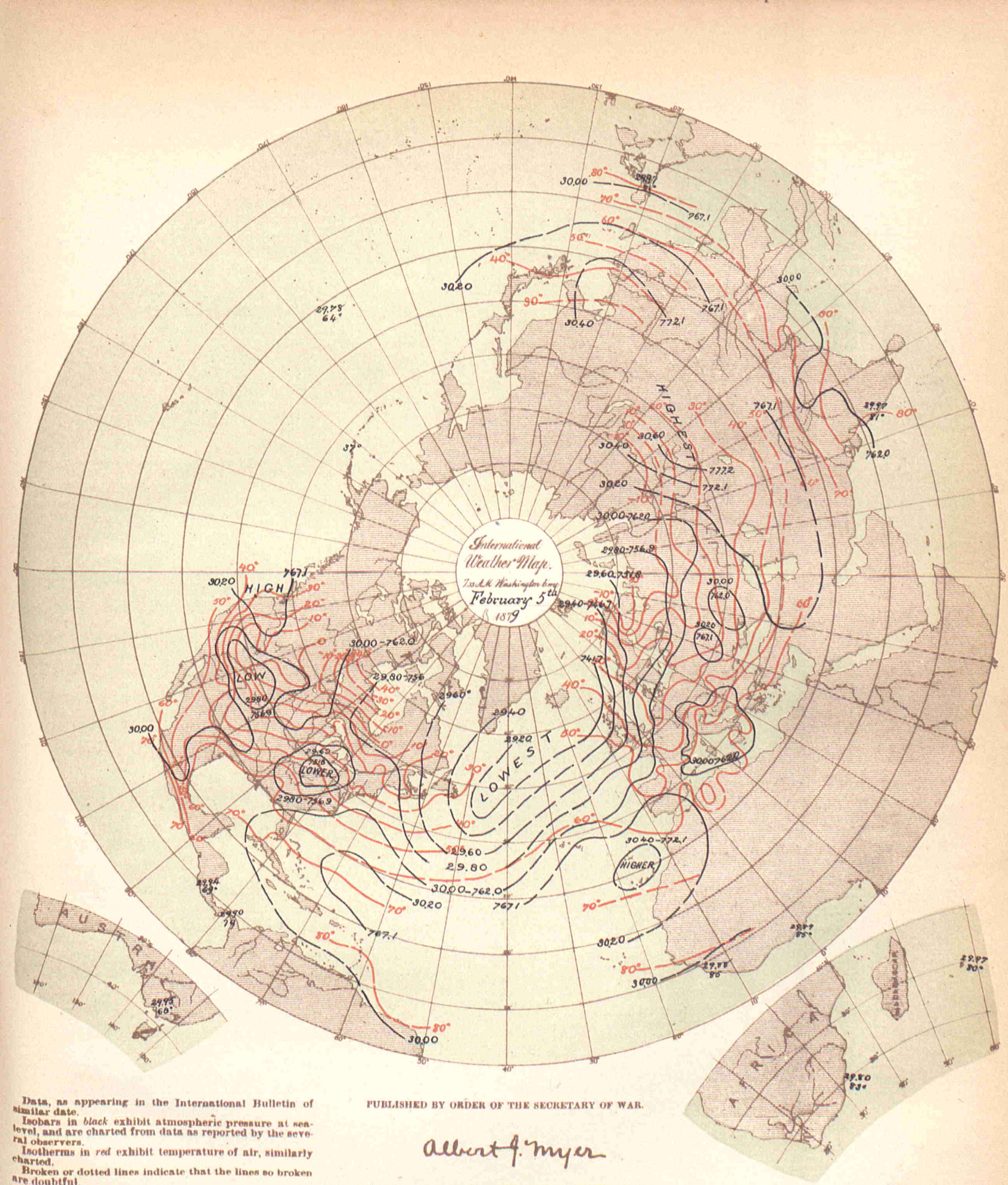
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d}.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 6, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.36	771.2	61.3	16.3		NE			1		5			0	0	Cloudy	
Nemours			30.30	769.5	66.9	19.4	65	Calm			0		5			0	0	Cloudy	Kesxuche.
Algiers			30.12	765.1	60.8	16.0	27	WSW			6		8			Inap.	Inap.	Very cloudy	Tourillere.
La Calle			30.03	762.8	67.6	14.2	60	NW			5		5			0.504	12.8	Cloudy	Foufrede.
Tunis			30.00	762.0	61.3	16.3	51	NNW			7		8			0	0	Very cloudy	Jacques.
Sfax			30.02	762.5															Gau.
Saida			30.16	766.0	56.8	13.8	68	NW			4		5			0	0	Cloudy	Herbin.
Tebessa			30.09	764.3	46.9	8.3	71	NW			3		10			0.189	4.8	Covered	Watrin.
Geriville			30.14	765.6	50.0	10.0	97	NNW			4		5			0	0	Cloudy	Brugnlaux.
Laghouat			30.19	766.8	55.0	12.8	59	NE			2		0			0	0	Clear	Bertrand.
Biskra			30.08	764.1	63.7	17.6	49	NNW			4		5			0	0	Cloudy	Chanvaux.

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.36	745.7	29.93	760.2	35.2	1.8	93					10				0.532	13.5	Raining	Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.15	740.3	29.96	760.9	25.2	— 3.8	98	ENE			1	10				0	0		Dr. Wierzbiski
Eperies	29.08	738.7	30.00	761.9	35.2	1.8	96	Calm			0	10				0	0		Julius Mikolik.
Gratz	28.64	727.5	29.94	760.4	37.9	3.3	52	SW			2	9				0.343	8.7		Andreas Rospini.
Hermannstadt	28.58	725.9	30.04	762.9	45.0	7.2	80	SSE			4	8				0.041	1.05		Prof. A. Gottschling.
Kremsmünster	28.54	724.9	29.93	760.2	34.9	1.6	94	Calm			0	10				0	0		Prof. C. Wagner.
Lemberg	28.97	736.8	30.01	762.2	27.5	— 2.5	94	SE			1	4				0.024	0.6		Dr. T. Stanecki.
Pola	29.75	755.7	29.86	758.5	52.2	11.2	85	W			1	10				1.087	27.6		I.R.Hydrographic Office.
Szathmar	29.56	750.9	30.04	762.9	46.4	8.0	68	E			2	8				0	0		Julius Csics, S. J.
Szegedin	29.65	753.2	29.94	760.5	44.6	7.0	79	S			3	6				0.150	3.80		Karl Stancel.
Trieste	29.68	757.6	29.93	760.2	49.3	9.8	96	Calm			0	10				0.472	12.0	Raining	P. Busin.
Vienna	29.20	741.8	29.95	760.7	33.8	1.0	96	SE			1	10				0.189	4.8	Fog & snow.	I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory
Furnes																			M. E. de Cae
Maeseyck																			M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	28.77	730.7	28.87	733.3	42.0	5.6	.....	SW	22	9.8	.....	.....	9	.....	.....	Blank	Blank	Fair	W. Boswell.
Ardrossan	28.97	735.8	28.98	736.1	47	8.3	.....	WSW	.....	.....	6	.....	9	.....	.....	.....	.....	Overcast	William McNeil.
Armagh, Observatory	.....	.....	29.21	741.9	47.9	8.8	.....	WSW	22	9.8	.....	.....	3	.....	.....	.....	.....	D. clouds	S. Call.
Bidston (Liverpool Obs.)	.....	.....	29.28	743.7	47.7	8.7	.....	WSW	27	12.1	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton, (Sharples)	.....	.....	29.30	744.2	42.1	5.6	.....	WSW	24	10.7	.....	.....	4	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Bradford, Yorkshire	28.86	733.0	29.25	742.9	43.1	6.2	.....	W	.....	.....	5	.....	2	.....	.....	0.19	4.8	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	80	26.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A [H.
Cambridge, Observatory	.....	.....	29.42	747.2	50.0	10.0	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [O.
Cardington	.....	.....	29.51	749.5	48.0	8.9	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.41	747.0	29.54	750.3	46.1	7.8	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Corpl. Daly, R. E.
Dartmoor	28.09	713.5	29.58	751.3	41.0	5.0	.....	NW	.....	.....	5	.....	7	.....	.....	.....	.....	Squally	Alexander Watt.
Donaghadee	29.14	740.1	29.18	741.2	47	8.3	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.54	750.3	29.56	750.8	43	6.1	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	J. Costello.
Falmouth, Observatory	29.40	746.7	29.62	752.3	51.8	11.0	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.48	698.0	29.78	756.4	78.0	25.6	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Pvt. S. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.63	752.6	29.86	758.4	85	29.4	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.34	745.2	49	9.4	.....	WSW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.24	768 1	30.29	769.4	61.2	16.2	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	28.75	730.2	28.96	735.6	42.8	6.0	.....	WSW	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean.
Great Yarmouth	29.45	748.0	29.45	748.0	47	8.3	.....	SW	.....	.....	3	.....	6	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.33	745.0	29.50	749.3	49.7	9.8	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.48	748.8	29.70	754.4	50	10.0	.....	SW	.....	.....	5	.....	5	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S
Helston	29.56	750.8	29.68	753.9	52	11.1	.....	W	.....	.....	5	.....	2ck	.....	.....	0.18	4.6	Fine	M. P. Moyle.
Holyhead	29.29	744.0	29.34	745.2	47	8.3	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.44	747.8	29.73	755.1	49.0	9.4	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.47	748.5	29.51	749.5	49.4	9.7	.....	SW	30	13.4	.....	.....	8	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	29.12	739.6	29.38	746.2	46.8	8.2	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.68	753.9	29.70	755.9	56	13.3	.....	W	.....	.....	2	.....	8ks	.....	.....	.....	.....	Overcast	Sergt. H. J. Beckert, A. H. C.
Nairn	28.68	728.5	28.75	730.2	47	8.3	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.06	763.6	69.0	20.6	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.17	740.9	29.36	745.7	47.0	8.3	.....	SW	.....	.....	5	.....	10d	.....	SSW	0.002	0.05	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.85	732.8	29.37	746.0	46.0	7.8	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.48	748.8	49	9.4	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	29.52	749.8	29.59	751.6	49.8	9.9	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.44	747.8	29.48	748.8	51	10.6	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.29	744.0	29.45	748.0	47	8.3	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	28.76	730.5	40.1	4.5	.....	SSE	18	8.0	.....	.....	8	.....	.....	.....	.....	Snowing	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	30.11	764.8	55.2	12.9	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy	W. H. Lyne.
Sheffield	29.04	737.6	29.32	744.7	46.4	8.0	.....	SW	.....	.....	3	.....	9	.....	.....	0.11	2.8	Overcast	W. F. Cooper.
Silloth Rectory	29.15	740.4	29.18	741.2	45.1	7.3	88	SW	.....	.....	5	.....	5	.....	.....	0.140	3.56	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	28.87	733.3	29.28	743.7	44.0	6.7	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stratfield Turgiss	29.31	744.5	29.52	749.8	49.8	9.9	.....	SW	.....	.....	2–3	.....	10	.....	.....	.....	.....	Overcast	C. H. Griffith, F. M. S.
Thurso	28.67	728.2	28.74	730.0	42	5.6	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	29.63	752.6	54	12.2	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.50	749.3	29.52	749.8	49.0	9.4	.....	WSW	22	9.8	.....	.....	7	.....	.....	.....	.....	D. clouds	The Meteorological Of.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	28.99	736.3	45.8	7.7	.....	W	.....	.....	7	.....	10ks	.....	.....	0.04	1.0	Cloudy	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.94	760.5	81.7	27.6	69	E	20.6	9.2	.....	1	4	.....	ENE	1.60	40.64	Squally	C. Meldrum.
Melbourne, Observatory	29.79	756.6	29.88	758.9	73.0	22.8	62	W	6	2.7	.....	.....	0	.....	.....	0	0	Dense haze	R. L. J. Ellery.
Monach L't-house, (Hebrides	.....	.....	28.80	731.5	45	7.2	.....	WNW	.....	.....	7	10	10	WNW	.....	0.4	10.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	28.90	734.0	42	6.1	.....	S	.....	.....	6	.....	10	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

BRITISH MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.20	665.5	29.92	760.0	68.4	20.2	61	SE	.....	.....	1	Sc;cs	5s	.....	NE	0	0	Very cloudy	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.58	751.8	29.63	752.5	32.9	0.5	90	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Fanöe	29.41	747.0	29.43	747.5	32.0	0.0	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Snowing	.....
Godthaab, (Greenland)	29.51	749.5	29.55	750.6	17.4	— 8.1	88	NE	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.82	732.1	29.86	733.0	43.3	6.3	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.25	743.0	29.42	747.3	32.2	0.1	100	S	.....	.....	5	.....	10	.....	.....	.....	.....	Snowing	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.30	744.3	29.35	758.3	46.0	7.8	97	SW	.....	.....	1	.....	10	.....	.....	0.114	2.9	Covered	Collignon, Director.
Amiens, Normal School	29.82	757.4	29.93	760.2	47.8	8.8	89	SSW	.....	.....	3	.....	5	.....	E	0.256	6.5	Cloudy	Bouvallet, Director.
Avignon, Normal School	29.88	758.9	29.96	760.9	48.2	9	61	N	.....	.....	1	.....	.....	.....	.....	0	0	Foggy	M. Giraud, Director.
Bar-sur-Seine	29.30	744.2	29.38	758.9	45.1	7.3	83	S	.....	.....	1	.....	10	.....	SW	0.024	0.6	Covered	C. Saillard, Director.
Beauvais, Normal School	29.51	749.5	29.80	756.8	47.8	8.8	81	S	.....	.....	1	.....	10	.....	.....	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.08	738.5	29.90	761.7	43.5	6.6	81	S	.....	.....	2	.....	10	.....	SW	0.020	0.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.10	739.2	30.00	762.1	43.0	6.1	82	SE	.....	.....	1	.....	ck	S	S	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.38	746.2	29.94	760.4	48.2	9	92	SSW	.....	.....	3	.....	10	S	SSW	0.08	2	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.50	749.4	29.75	755.6	54.0	12.2	87	SW	.....	.....	4	.....	10	.....	SW	0.374	9.50	Hazy	M.de Rermaree, Director
Carcassonne, Normal School	29.54	750.4	29.96	761.1	50.4	10.2	76	SW	.....	.....	2	.....	5	NW	NW	0	0	Cloudy	September, Director.
Caen, Normal School	29.65	753.0	29.72	754.9	52.2	11.2	71	NE	.....	.....	2	.....	5	.....	NE	0.094	2.4	Cloudy	M. Lair, Director.
Chartres, Normal School	29.20	741.8	29.78	756.3	46.8	8.2	83	SW	.....	.....	1	.....	9	.....	NNE	0.122	3.1	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.4	29.87	758.6	44.6	7.0	88	SW	.....	.....	4	.....	10	SW	SW	0.031	0.8	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.64	724.8	29.91	759.7	47.1	8.4	67	NW	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Alluard, Director.
Commercy, Normal School	29.98	756.0	29.88	758.9	39.6	4.2	93	NW	.....	.....	1	.....	10	.....	NW	.....	.....	Light rain	Dr. Coulet, Director.
Commune de Gréasque*	28.81	731.7	29.95	760.7	47.8	8.8	48	NW	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	M. Kina, Director.
Grenoble, Normal School	29.20	741.8	29.99	761.8	44.2	6.8	71	ENE	.....	.....	1	.....	8ck	.....	NW	0	0	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.06	753.3	29.87	758.7	51.4	10.8	95	SSW	.....	.....	1	.....	10	.....	.....	0.055	1.4	Light rain	Mouillot, Director
Le Mans, Normal School	29.53	750.1	29.84	757.9	50.2	10.1	84	W	.....	.....	3	.....	8	.....	WSW	0.053	1.35	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.06	738.2	29.98	761.6	44.1	6.7	74	NW	.....	.....	2	.....	10	.....	W	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	29.76	755.9	29.86	758.4	52.5	11.4	90	WSW	.....	.....	6	.....	.....	W	SW	0 417	10.6	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.81	731.8	29.88	759.0	37.8	3.2	86	SSE	.....	.....	1	.....	kn	.....	NNW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.82	757.5	30.03	762.8	54.7	12.6	70	S	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.91	734.2	30.00	761.9	45.0	7.2	88	S	.....	.....	1	.....	s	S	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.97	634.2	.....	.....	31.5	— 0.3	100	W	.....	.....	2	.....	Fog	.....	.....	0.079	2.0	Dense fog	Alluard, Director.
Rochefort, Naval Obs'y	29.87	758.8	29.91	759.6	51.1	10.6	97	SSW	.....	.....	1	.....	10	SSW	SSW	0.08	2.	Covered	Lt. Decante, Director.
Rouen, Normal School	28.95	753.2	29.74	755.4	51.8	11.0	74	SSW	.....	.....	2	.....	5	.....	SW	0.094	2.4	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'	28.72	764.8	29.75	755.6	55.0	12.8	68	SW	.....	.....	4	.....	2	SW	SW	0.063	1.60	Light clouds	Lt. Hercouet, Director.
Saint Maur, (near Paris)	28.95	753.0	29.81	757.2	46.8	8.2	87	SW	.....	.....	2	.....	9	.....	SW	0.102	2.6	Covered	L. Renou, Director.
Tarbes, Normal School	28.90	734.0	29.99	761.8	49.4	8	72	W	.....	.....	4	.....	10	.....	.....	0.16	4.	Raining	T. Huguet, Director.
Versailles Observatory	29.31	744.4	29.80	756.9	46.6	8.2	.....	SW	.....	.....	2	.....	10	.....	.....	0.121	3.08	Light rain	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.32	744.8	30.06	763.5	41.9	5.5	93	SE	.....	.....	2	.....	2	.....	SE	0.177	4.5	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	760.9	29.98	761.6	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.96	760.9	43.5	6.4	76	E	.....	.....	1	.....	5	.....	.....	0	0	Fine	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.67	626.6	29.98	761.6	30.0	2.2	66	SW	.....	.....	3	.....	10	.....	.....	0	0	Slightly cl'dy	M. Cave.
Nice	.....	.....	29.91	759.7	56.8	13.8	73	SSE	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.52	749.8	.....	.....	47.7	8.7	87	SW	.....	.....	4	.....	10	.....	SW	0.106	2.7	.....	Marié Davy, Director.
Perpignan	29.82	757.4	29.93	760.1	51.3	10.7	80	SE	1.8	0.8	.....	.....	10	.....	SE	0.031	0.8	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.30	566.3	.....	.....	32.7	0.4	.....	W	.....	.....	4	.....	10	.....	.....	0.583	14.8	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.23	742.4	29.95	760.7	47.1	8.4	94	SE	.....	.....	1	.....	10	.....	.....	0.169	4.3	Raining	M. Mercadier Juller.
Tours	29.06	753.3	29.85	758.3	48.6	9.2	86	SW	.....	.....	1	.....	10	.....	W	0.039	1.0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.39	772.0	30.42	772.6	36.1	2.3	82	ENE	1.1	0.5	.....	.....	9k	.....	.....	0	0	Cloudy	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, but Clermont-Ferrand and Greasque on the scale 0 to 4, and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1,00 instead of 0,58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèsque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-1	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.02	737.1	29.86	758.4	37.9	3.3	85	W			2		8	W		0	0		Prof. Dr. Hoh.
Berlin	29.62	752.3	29.80	756.8	37.4	3.0	83	SW			2		10			0	0		Prof. Arndt.
Breslau	29.34	745.3	29.87	758.7	36.3	2.4	82	SSE			1		10			0	0		Royal University Obs'y
Carlsruhe	29.42	747.3	29.85	758.3	42.1	5.6	72	SW			2		10	SW		0	0		Albert Senx.
Cassel	29.15	740.4	29.74	755.3	36.7	2.6	78	SW			4		10	SW		0	0		Dr. H. Möhl.
Crefeld	29.55	750.5	29.71	754.6	40.1	4.5	84	S			4		9			0.04	1.		Director Lose.
Emden					37.2	2.9	94	SW			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.49	749.1	29.87	758.6	37.4	3.0		S			2		10			0.004	0.1		Physical Society.
Friedrichshafen	28.46	722.9	29.84	757.8	39.6	4.2	84	W			2		1			0	0		M. Wilhelm.
Hamburg	29.60	751.9	29.67	753.7	34.2	1.2	89	SSW			4		10			0.008	0.2	Dull.	Captain F. Hegemann.
Kiel	29.61	752.1	29.63	752.6	34.8	1.3	90	SW			5		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.86	758.5	29.95	760.7	31.1	— 0.5	86	S			4		10			0	0		Prof. E. Luther.
Köslin			29.74	755.4	35.6	2.0		SE			2		4			0	0		H. Müller.
Leipsic, Observatory	29.40	746.7	29.83	757.7	37.0	2.8	77	SSW			3		10	SW		0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.86	758.4	29.91	759.6	30.9	— 0.6	92	S			4		10n						Skalweit.
Neufahrwasser	29.85	758.3	29.87	758.7	33.6	0.9	84	SW			3		10			0.012	0.3		A. Lothes.
Posen	29.59	751.5	29.89	759.1	36.7	2.6	85	E			2		10			0.004	0.1	Light rain	Dr. Magener.
Strassburg (in Alsace)	29.34	745.3	29.90	759.5	45.0	7.2	73	SSW			3		9	W				Light rain	Imp. University Observatory.
Stuttgart	28.91	734.2	29.83	757.7	42.5	6.0	75	SW			1		6	W		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.35	720.2	29.91	759.6	37.6	3.1	81	SW	7	3			8ck		W	0.028	0.7	Dense fog	Dr. Van Bebber.
Wustrow, Naval School	29.66	753.4	29.69	754.0	33.6	0.9	85	SSW			4		10ks			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.67	753.6	30.06	763.5	62.6	17.0		SE			1.5							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.08	764.2	30.14	765.4	75.1	23.9	65	NE	24	10.7			0			0	0	Blue sky	
Deesa	29.51	749.5	29.98	761.6	80.8	27.1	23	NW	12.9	5.8			0			0	0	Blue sky	
Bombay	29.92	759.8	29.95	760.8	79.7	26.5	63	NNW	19	8.5			0			0	0	Blue sky	
Poonah	27.95	710.0	29.94	760.5	83.5	28.6		ENE					0			0	0	Blue sky	
Lahore	29.22	742.3	30.00	761.9	62.7	17.0	35	Calm	2.3	1.0			0			0	0	Blue sky	
Belgaum	27.41	696.3	29.93	760.2	82..	27.8	32	Calm					1			0	0	D. clouds	
Roorkee	29.02	737.1	29.95	760.6	67.8	19.9	30	NW	3	1.3			8			0	0	D. clouds	
Agra	29.41	746.9	29.98	761.6	72.7	22.6	43	W								0	0		
Nagpur	28.88	733.7	29.92	760.0	85.6	29.8	27	Calm	2	0.9						0	0	Blue sky	
Lucknow	29.55	750.6	29.93	760.3	71.3	21.8	52	NW	2.3	1.0						0	0	Blue sky	
Allahabad	29.62	752.2	29.93	760.2	73.1	22.8	46	Calm	0.7	0.3			0			0	0	Blue sky	
Patna	29.72	755.0	29.91	759.7	77.3	25.2	42	W	1.0	0.4			0			0	0	Blue sky	
Hazaribagh	27.89	708.5	29.93	760.3	72.6	22.6	26	NW	8.9	4.0			0			0	0	Blue sky	
Cuttack	29.85	758.1	29.93	760.2	83.0	28.3	41	W	2.1	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.89	759.1	29.91	759.6	73.9	23.3	59	W	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.51	749.6	29.91	759.7	72.6	22.6	44	NNE	2.3	1.0			0			0	0	Blue sky	
Chittagong	29.87	758.8	29.97	761.2	70.8	21.6	75	SW	4.6	2.1			5		W	0	0	D. clouds	
Sibsagar	29.62	752.3	29.96	761.1	65.4	18.6	77	Calm	0.8	0.4			0			0	0		
Jubbulpore	28.58	725.9	29.96	761.0	76.8	24.9	39	Calm	1.3	0.6			8	W	W	0	0	D. clouds	
													0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.3	29.84	758.0	48.0	8.9	71	SE	1.8	0.8	.....	.....	6	.....	.....	0.122	3.1	.....	Prof. Giovanni Clodig.
Padua	29.76	756.0	29.87	758.8	50.4	10.2	70	N	1.8	0.8	.....	.....	7	W	.....	0.180	3.3	.....	Prof. Dott. Lorenzoni
Milan	29.37	745.9	29.90	759.4	49.3	9.6	85	SSW	.....	.....	1	.....	9	SSE	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.98	736.2	29.92	759.9	47.5	8.6	75	NNE	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.96	710.2	29.91	759.7	45.7	7.6	65	NNW	.....	.....	2	.....	4	NW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.70	754.3	29.89	759.2	55.8	13.2	57	Calm	0	0	.....	.....	2	W	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.02	752.3	29.88	758.9	54.1	12.3	66	NE	.....	.....	2	.....	9	SW	.....	0.020	0.5	.....	Cav. F Meucci
Leghorn	29.80	756.9	29.89	759.1	55.4	13.0	73	W	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.84	757.8	29.88	759.0	47.5	8.6	92	NE	6.8	2.8	.....	.....	10	.....	.....	0.126	3.2	.....	Prof. Luigi Guidi.
Rome	29.66	753.4	29.84	757.9	58.3	14.6	71	N	0.7	0.3	.....	.....	6	.....	.....	0.433	11.0	.....	Prof. P. S. Ferrari.
Lecce	29.64	752.9	29.90	759.4	59.5	15.3	65	WSW	24.8	11.1	.....	.....	8	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.72	754.8	29.91	759.7	57.0	13.9	49	N	.....	.....	4	.....	2	NE	.....	0.031	0.8	.....	Prof. A. Pacinotti.
Cosenza	28.91	734.3	29.81	757.1	51.5	11.0	77	N	1.3	0.6	.....	.....	10	.....	.....	1.067	27.1	.....	Prof. D. Conti.
Palermo	29.61	752.0	29.86	758.5	55.8	13.2	79	NNW	4.3	1.9	.....	.....	10	NW	.....	0.390	9.9	.....	Prof. G. Cacciatore.
Syracuse	29.72	754.8	29.79	756.7	55.2	12.9	86	WNW	4.9	2.2	.....	.....	10	NE	.....	0.598	15.2	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.28	743.6	29.83	757.7	57.6	14.2	75	SE	0	0	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.34	770.6	30.36	771.1	35.9	2.2	88	NE	3.0	1.3	.....	.....	1ck	W	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.09	764.3	30.30	769.6	44.9	7.2	82	NNE	0.8	0.3	.....	.....	10c	W	.....	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.30	769.6	30.37	771.4	38.1	3.3	99	NE	4.0	1.8	.....	.....	10n	.....	.....	0.160	4.06	Light rain	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	SE	.....	.....	1	3cs	0	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	24.96	633.9	30.14	765.6	41.0	5.0	60	S	.....	.....	1	3c	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.31	617.6	29.92	760.0	55.8	13.2	78	S	.....	.....	1	3c	0	.....	.....	0	0	Clear	Prof. M. Leal.
Mexico, Central Obs'y	22.96	583.2	30.03	762.7	48.6	9.2	70	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes	.....	.....	.....	.....	48.7	9.3	72	NNE	.....	.....	1	1cs	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	29.96	761.0	29.97	761.3	70.9	21.6	93	N	.....	.....	2	6	4	NW	N	0.004	0.1	Rainy	M. M. Cházaro.
San Luis Potosi	24.23	615.4	30.06	763.6	53.0	11.7	60	S	.....	.....	.....	2	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	29.84	758.0	29.87	758.7	69.8	21.0	91	N	19.0	8.5	.....	.....	10sk	.....	N	0	0	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	Calm	0	0	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.31	592.0	30.06	763.5	46.4	8.0	86	ESE	4.5	2.0	.....	.....	1	.....	.....	.....	.....	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	0	10	.....	.....	0	0	Covered	M. V. de Leon, C. E.
Colima	28.35	720.1	30.01	762.3	72.1	22.3	83	E	.....	.....	0	2n	3s	.....	.....	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam	29.75	755.8	29.89	759.2	71.6	21.9	.....	Calm	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.4	30.02	762.4	30.2	— 1.0	.....	SSW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	29.53	750.1	29.59	751.5	36.3	2.4	.....	S	.....	.....	3	.....	.....	.....	.....	0.043	1.1	.....	
Helder	29.51	749.5	29.51	749.5	35.8	2.1	.....	S	.....	.....	5	.....	.....	.....	.....	0.039	1.0	.....	
Hellevoetsluis	29.61	752.0	29.61	752.0	38.7	3.7	97	SSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.68	751.4	29.63	752.6	37.9	3.3	98	SSW	.....	.....	4	.....	10	.....	.....	0.047	1.2	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.14	740.1	29.19	741.5	38.5	3.6	70	S	26.4	11.8	.....	.....	8	.....	.....	0.161	4.1	.....	
Bröno	29.20	741.6	29.24	742.6	30.2	— 1.0	76	Calm	0	0	.....	.....	7	.....	.....	0	0	.....	
Christiania	29.29	744.0	29.44	747.8	30.7	— 0.7	94	SSW	7	3	.....	.....	10	.....	.....	0.063	1.6	Snowing	
Tromsö	29.37	745.9	29.41	747.0	18.7	— 7.4	61	SW	7	3	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.82	757.3	30.01	762.2	61.5	16.4	94	WSW	18.0	5.8	.....	.....	8	.....	.....	0.138	3.5	.....	Dr. J. A. Sampaio.
Campo Major	29.21	741.9	30.24	768.2	57.7	14.3	76	W	18.6	8.3	.....	.....	9	W	.....	0.079	2.0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.32	770.1	30.41	772.3	62.6	17.0	73	SW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.92	759.9	30.28	769.1	58.8	14.9	90	WSW	22.4	10.0	.....	.....	6	.....	.....	0.374	9.5	.....	The Staff.
Ponta Delgada, (Azores)	30.08	763.9	30.15	765.7	64.8	18.2	84	SW	26.2	11.7	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h, 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from —																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinta, Com'd'r
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd.t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.90	759.4	85.1	29.5	.....	W	.....	.....	1	.....	2	.....	W	2	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. da Silva Costa. Porto de Bonsma. N. 11° 29', W. 15° 36'	.....	.....	29.94	760.4	82.8	28.2	.....	ENE	.....	.....	4	.....	0	.....	.....	1	ENE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.79	756.7	84.7	29.3	.....	WNW	.....	.....	3	.....	3	.....	.....	1	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.15	765.8	64.4	18.0	.....	E	.....	.....	3	.....	8	.....	E	2	SE	.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia at St. Petersburg.

Warsaw	29.52	749.8	29.97	761.1	27.7	— 2.4	98	SE	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.58	751.2	30.02	762.4	28.6	— 1.4	91	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.66	753.4	29.92	759.9	24.4	— 4.2	89	S	11	5	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
St. Petersburg	29.86	758.5	29.88	758.9	15.3	— 9.3	94	S	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Kieff	29.66	750.8	30.26	768.5	12.7	—10.7	83	SSE	7	3	.....	.....	8ks;c;ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.31	769.9	30.38	771.7	23.7	— 4.6	95	S	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.32	770.1	30.34	770.6	36.5	2.5	93	N	2	1	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.58	751.4	30.17	766.3	20.8	— 6.2	84	SE	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.15	765.9	30.38	771.7	9.3	—12.6	69	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.90	759.5	29.92	760.0	— 5.8	—21.0	75	SSW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt Sselliwerstow.
Tiflis	28.85	732.8	30.32	770.0	43.2	6.2	74	NW	4	2	.....	.....	7s	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.54	775.6	30.45	773.5	22.8	— 5.1	74	NW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.50	749.3	30.01	762.3	12.6	—10.5	70	WNW	18	8	.....	.....	7k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.65	753.0	29.94	760.4	11.7	—11.3	77	WNW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.97	735.8	30.02	762.4	8.1	—13.3	60	SW	4	2	.....	.....	2s	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.62	727 0	30.42	772.6	34.9	1.6	78	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.91	759.7	30.47	773.8	8.4	—13.1	69	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	30.17	766.3	30.48	774.3	22.1	— 5.5	64	SW	11	5	.....	.....	10	.....	.....	.....	.....	.....	Marks,
Peking, (China)	30.38	771.7	30.52	775.3	32.7	0.4	40	NNW	18	8	.....	.....	6k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk. 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.4	29.97	761.2	52 0	11.1	79	WSW	2.9	1.28	.....	.....	10	.....	.....	0	0	Foggy	Antonio Rave, Director
Bilbao, Met. Obs'y	29.89	759.2	29.95	760.7	55.4	13.0	91	N	2.0	0.91	.....	.....	10	.....	.....	0.173	4.4	Rainy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.99	685.6	.....	.....	54.9	12.7	95	W	13.0	5.83	.....	.....	6	.....	.....	0.098	2.5	Cloudy	Domingo Martin y Peres.
Madrid, Royal Observatory	27.83	706.9	.....	.....	54.0	12.2	90	SW	19.9	8.90	.....	0	10	.....	.....	0.008	0.2	Covered	The Staff.
Murcia, Met. Obs'y	29.97	761.1	30.11	764 9	68.5	20.3	59	NE	2.9	1.28	.....	1	3	SE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y. Sub-Series	29.14	740.2	30.04	763.0	55.2	12.9	93	SW	8.1	3.6	.....	.....	10	.....	.....	0.740	18.8	Covered	R. Gil Villanueva, Dir.
Havana, Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benito Vines, S. J.
Manilla, Philippine Islands,	29.89	759.2	29.94	760.5	79.3	26.3	76	NNE	0	0	.....	.....	2cs	.....	E	0	0	Clear	Federico Faura, S. J.
S. Fernando, Naval Obs'y	30.25	768 3	30.35	770.8	61 2	16.2	87	WSW	7.8	3.5	.....	0	10	.....	SW	0	0	.....	
San Juan de Porto Rico, W. I.	30.00	761.9	30.09	764.2	78.1	25.6	85	E	6.7	3.00	.....	3k	3k	E	E	0.030	0.76	Cloudy	Leonardo de Tejeda, Ch'f. Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

Capt. C. Pujazon, R. N. Dir.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Haparanda	29.58	751.2	29.61	752.2	5.4	—14.8	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.48	747.6	29.48	748.9	20.1	— 6.6	100	Calm	.....	.....	0	.....	10	.....	.....	0.177	4.5	Snowing	
Hernosand	29.39	746.5	29.44	747.8	28.4	— 2.0	92	S	.....	.....	2	.....	10	.....	.....	0.020	0.5	Snowing	
Stockholm	29.45	748.1	29.63	752.6	24 8	— 4.0	95	SSW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.67	753.4	29.72	754.9	33.1	— 0.6	85	WSW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.52	749.7	29.56	751.6	24.4	— 4.2	86	SSW	14.3	6.4	.....	10	.....	.....	.....	0.004	0.09	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.49	723.7	29.06	761.0	41.0	5.0	77	N	.....	.....	2	.....	8	.....	.....	0	0	.....	The Observatory.
Zurich	28.29	718.6	29.98	761.5	39.2	4.0	72	SW	.....	.....	1	.....	8	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.1 mm.; Thermometer, +2.2 cent.; Relative Humidity, —3 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	766.7	54.0	12.7	76	NE	4	2.0	.....	.....	9	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.30?	769.5?	61.3	16.3	.....	S	.....	.....	3	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.03	762.8	30.15	765.7	66.9	19.4	65	NE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.69	754.1	29.76	755.9	14.6	— 9.7	68	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.60	751.8	29.93	760.2	15	— 9.4	.....	Calm	0	0	.....	.....	10s	.....	NE	0.07	1.8	Foggy	W. R. Bigg.
*Chatham, N. B	29.65	753.1	29.72	754.9	16	— 8.9	95	Calm	0	0	.....	.....	10n	.....	Calm	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.65	753.1	29.69	754.1	13	—10.6	83	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.67	753.6	29.87	758.7	17.2	— 8.2	100	W	.....	.....	1	.....	10n	.....	.....	0.02	0.5	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	4.1	.....	W. H. Bevis.
*Father Point, Quebec	29.70	754.4	29.72	754.9	18	— 7.8	83	S	20	8.9	.....	.....	10n	.....	Calm	0.08	2.0	Light snow	J. McWilliams.
Fredericton, N. B	29.69	754.1	29.76	755.9	16 3	— 8.7	98	Calm	0	0	.....	5ck	0	.....	.....	Inap.	Inap.	Light snow	Prof. Harrison.
*Fort Garry Manitoba	29.07	738.4	30.00	762.0	— 6	—21.1	95	S	2	0.9	.....	0	2s	.....	.....	0	0	Fair	James Stewart.
Granton, Ontario	28.74	730.0	29.91	759.7	22	— 5.6	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.54	750.3	29.68	753 9	23	— 5.0	94	N	2	0.9	.....	.....	10ks	.....	N	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.57	751.1	29.96	761.0	24.7	— 4.1	81	SW	.....	.....	1	10cs	0	SW	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.56	750.8	29.92	760.0	15	— 9.4	89	SE	1	0.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.62	752 3	29.66	753.4	26.6	— 3.0	83	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.67	753.6	29.88	758.9	14	—10.0	93	W	5	2.2	.....	.....	10n	.....	.....	Inap	Inap.	Hazy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.22	742.2	29.99	761.7	3	—16.1	76	E	7	3.1	.....	2cs	0	E	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.02	737.1	29.83	757.7	10.7	—11.8	80	Calm	.....	.....	.....	0	0	.....	.....	0.20	5.1	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.18	741.2	29.91	759.7	25	— 3.9	87	Calm	0	0	.....	.....	Haze	.....	.....	0.02	0.5	Cloudy	H. Morgan.
Port Hastings, N. S	29.63	752.6	29.68	753.9	21.9	— 5.6	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.25	742.9	29.93	760.2	24	— 4.4	86	N	5	2.2	.....	.....	10n	.....	W	0.05	1.3	Cloudy	M. Payne.
*Quebec, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.43	747 5	29.95	760.7	— 1	—18.3	91	NW	3	1.3	.....	.....	8s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.53	775.4	30.58	776.7	4	—15 6	77	N	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.56	750.8	29.74	755.4	24	— 4.4	87	SW	5	2.2	.....	.....	10s	.....	.....	0	0	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.14	740.1	29.90	759.4	21	— 6.1	90	E	3	1.3	.....	.....	10s	.....	.....	0.02	0.5	Light snow	K. Stewart.
Stayner, Ontario	29.08	738.6	29.91	759.7	21	— 6.1	94	Calm	0	0	.....	.....	10n	.....	Calm	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.58	725.9	29.90	759 4	20.2	— 6.6	96	Calm	0	0	.....	.....	10s	.....	.....	0.20	5.1	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.64	752.8	29.68	753.9	17	— 8.3	95	Calm	0	0	.....	8c	2s	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.52	749.8	29.93	760.2	22	— 5.6	94	NW	2	0.9	.....	.....	10n	.....	Calm	0.05	1.3	Cloudy	Magnetic Observatory.
Windsor, N. S	29.60	751.8	29.70	754.4	20.5	— 7.4	93	W	1	0.4	.....	10cs	0	.....	.....	0	0	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	27.5	— 2.5	100	NE	.....	.....	.....	10k?	10s?	.....	.....	0	0	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.62	752.3	29.86	758.4	24	— 4.4	80	N	11	4.9	.....	.....	10s	.....	Calm	0.43	10.9	Cloudy.....	
Alpena, Michigan	29.21	741.9	29.90	759.4	17	— 8.3	83	Calm	0	0	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	
Atlanta, Georgia	28.77	730.7	29.92	760.0	47	8.3	77	W	5	2.2	.....	Haze	Sm'e	Calm	Calm	0.04	1.0	Smoky.....	
Atlantic City, New Jersey	29.89	759 2	29.90	759.4	30	— 1.1	68	NW	6	2.7	.....	0	2s	.....	N	0.15	3.8	Clear.....	
Augusta, Georgia	29.74	755.4	29.91	759.7	52	11 1	86	Calm	0	0	.....	.....	10s;fg	.....	W;Calm	0.01	0.3	Cloudy.....	
Baltimore, Maryland	29.88	758.9	29.93	760 2	35	1.7	80	N	2	0.9	.....	.....	10s;fg	.....	Calm	0.37	9.4	Foggy	
Barnegat, New Jersey	29.88	758.9	29.90	759.4	30	— 1.1	89	NW	7	3.1	.....	10cs	0	Calm	.....	0.34	8.6	Cloudy.....	
Bismarck, Dakota	28.00	711.2	29.86	758.4	0	—17.8	100	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Boerne, Texas	28.59	726.2	29.97	761.2	34	1.1	79	NE	12	5.4	.....	.....	10s	.....	N	0.20	5.1	Cloudy.....	
Boise City, Idaho	27.12	688.8	30.08	764.0	26	— 3.3	76	SW	1	0.4	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.65	753.1	29.81	757.2	26	— 3.3	75	N	4	1.8	.....	5c	2s	NW	Calm	0.22	5.6	Fair.....	
Brackettville, Texas	28.96	735.6	30.03	762.8	37	2.8	81	N	8	3.6	.....	.....	10n	.....	Calm	0.39	9.9	Light rain...	
Breckenridge, Minnesota	28.82	732.0	29.92	760.0	1	—17.2	100	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Brownsville, Texas	30.02	762.5	30.09	764.3	44	6.7	92	N	10	4.5	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	
Buffalo, New York	29.18	741.2	29.91	759.7	25.6	— 3.6	81	N	3	1.3	.....	.....	10n	.....	Calm	0.06	1.5	Light snow..	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.60	751.8	29.91	759.7	14.5	— 9.7	91	N	1	0.4	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Cairo, Illinois	29.63	752.6	30.04	763.0	35	1.7	80	NW	5	2.2	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.08	637.0	29.88	758.9	28	— 2.2	66	N	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Camp Verde, Arizona	.....	.....	.....	.....	24	— 4.4	48	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp o, California	27.44	697.0	30.01	762.2	23	— 5.0	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	29.94	760.5	29.94	760.5	41	5.0	82	NE	12	5.4	.....	.....	10s	.....	NE	0.11	2.8	Cloudy	
Cape Henry, Virginia	29.89	759.2	29.91	759.7	38	3.3	72	Calm	0	0	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy.....	
Cape Lookout, N. Carolina	29.90	759.4	29.92	760.0	46	7.8	84	NE	23	10.3	.....	5ck	5s	W	N	0.07	1.8	Cloudy.....	
Cape May, New Jersey	29.86	758.4	29.90	759.4	32	0.0	79	NW	14	6.3	.....	.....	10s	.....	W	0.31	7.9	Cloudy.....	
Castroville, Texas	29.30	744.2	30.04	763.0	38	3.3	81	N	7	3.1	.....	10cs	0	Calm	.....	0.07	1.8	Cloudy.....	
Charleston, South Carolina	29.90	759.4	29.96	761.0	58	14.4	82	W	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy.....	
Cheyenne, Wyoming	23.79	604.3	29.73	755.1	15	— 9.4	82	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.21	741.9	29.93	760.2	25	— 3.9	86	NW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Cincinnati, Ohio	29.25	742.9	29.92	760.0	35	1.7	85	N	6	2.2	.....	.....	10n	.....	N	0.05	1.3	Light snow.	
Cleveland, Ohio	29.18	741.2	29.93	760.2	28	— 2.2	77	NE	3	1.3	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy.....	
Coleman City, Texas	28.32	719.3	30.09	764.3	28	— 2.2	88	N	11	4.9	.....	0	8s	.....	N	0	0	Fair	
Columbus, Ohio	29.08	737.3	29.90	759.4	32	0.0	89	N	4	1.8	.....	.....	10n	.....	Calm	0.04	1.0	Light snow.	
Corpus Christi, Texas	28.19	716.0	29.96	761.0	29	— 1.7	90	N	8	3.6	.....	.....	10s	.....	N	0.02	0.5	Cloudy.....	
Corsicana, Texas	29.67	753.6	30.17	766.3	32	0.0	89	NW	8	3.6	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.....	
Davenport, Iowa	29.29	744.0	29.96	761.0	24	— 4.4	75	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.10	637.5	.....	.....	15	— 9.4	82	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Decatur, Texas	28.96	735.6	29.30	744.2	28	— 2.2	92	NW	9	4.0	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Denison, Texas	29.30	744.2	30.14	765.5	29	— 1.7	89	NW	9	4.0	.....	.....	10s	.....	NW	0	0	Cloudy.....	
Denver, Colorado	24.59	624.6	29.81	757.2	12	—11.1	61	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Des Moines, Iowa	29.03	737.3	29.96	761.0	20	— 6.7	70	W	4	1.8	.....	0	2s	.....	W	0	0	Clear.....	
Detroit, Michigan	29.20	741.7	29.89	759 2	30	— 1.1	68	N	8	1.3	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy.....	
Dodge City, Kansas	27.44	697.0	29 94	760.5	8	—13.3	78	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Dubuque, Iowa	29.21	741.9	29.95	760.7	21	— 6.1	71	Calm	0	0	.....	1k	Fog	S	Calm	0	0	Fair.....	
Duluth, Minnesota	29.09	738.9	29.82	757.4	12	—11.1	80	SW	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Eagle Pass, Texas	29.31	744.5	30.08	764.0	39	3.9	91	NE	.....	.....	1	.....	10n	.....	Calm	0.04	1.0	Light rain...	
Eastport, Maine	29.66	753.4	29.73	755.1	25	— 3.9	81	NW	9	4.0	.....	.....	10s	.....	NW	0.04	1.0	Cloudy.....	
Edinburg, Texas	.....	.....	.....	.....	45	7.2	92	N	.....	.....	1	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
El Paso, Texas	26.21	665.7	.....	.....	47	8.3	48	NW	8	3.6	.....	c	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.15	740.4	29.89	759.2	28	— 2.2	88	NE	4	1.8	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy.....	
Escanaba, Michigan	29.19	741.4	29.90	759.4	6	—14.4	76	N	5	2.2	.....	5c	0	N	.....	0	0	Fair	
Florence, Arizona	28.52	724.4	30.12	765.0	34	1.1	61	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Buford, Dakota	.....	.....	.....	.....	0	—17 8	69	SE	.....	.....	1	10cs	0	Calm	.....	0	0	Cloudy.....	
Fort Craig, New Mexico	25.50	647.7	29.56	750.8	21	— 6.1	29	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.12	638.0	30.05	764.0	28	— 2.2	100	NE	5	2.2	.....	.....	10ks	.....	NE	0.04	1.0	Cloudy.....	
Fort Gibson, Indian Ter	29.54	750.3	30.11	764.8	29	— 1.7	89	NW	6	2.7	.....	0	5ks	.....	NW	0	0	Fair.....	
Fort Griffin, Texas	28.89	733.8	30.25	768.3	27	— 2.8	76	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort Keogh, Montana	27.24	691.9	.....	.....	6	—14.4	76	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Fort McKavett, Texas	27.86	707.4	29.90	759.4	29	— 1.7	78	NE	10	4.5	.....	.....	10ks	.....	NE	0.55	14.0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.93	734.8	30.12	765.0	23	— 5.0	86	NW	5	2.2	.....	0	2s	.....	Calm	0	0	Fair.....	
Fort Stevenson, Dakota	27.99	710.9	.....	.....	4	—15.6	83	W	.....	.....	1	.....	8s	.....	Calm	Inap	Inap.	Cloudy.....	
Fredericksburg, Texas	28.30	718.8	29.92	760.0	39	3.9	64	N	8	3.6	.....	.....	10s	.....	Calm	0.46	11.7	Cloudy.....	
Galveston, Texas	29.97	761.2	30.02	762.5	43	6.1	92	N	24	10.7	.....	.....	10s	.....	N	0.18	4 6	Cloudy.....	
Graham, Texas	29.07	738.4	30.20	767.1	26	— 3.3	88	NW	4	1 8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Grand Haven, Michigan	29.21	741.9	29.88	758.9	29	— 1.7	78	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Indianapolis, Indiana	29.10	739.1	29.90	759.4	33	0.6	89	NW	1	0.4	.....	.....	10n	.....	Calm	0.01	0.3	Light snow..	
Indianola, Texas	30.05	763.3	30.08	764.0	40	4.4	91	N	32	14.3	.....	.....	10s	.....	N	0.11	2.8	Cloudy.....	
Jacksboro, Texas	29.01	736.8	30.22	767.6	25	— 3.9	87	N	4	1.8	.....	.....	8s	.....	N	0	0	Cloudy.....	
Jacksonville, Florida	29.93	760.2	29.95	760.7	65	18.3	89	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Keokuk, Iowa	29.31	744.5	29.96	761.0	28	— 2.2	77	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Key West, Florida	29.99	761.7	30.03	762.8	71	21.7	90	SE	7	3.1	.....	5k	Fog	SE	Calm	0	0	Fair.....	
Kittyhawk North Carolina	29.89	759.2	29.92	760.0	39	3.9	82	NE	12	5.4	.....	10cs	0	W	.....	0.28	7.1	Cloudy.....	
Knoxville, Tennessee	28.89	733.8	29.91	759.7	40	4.4	95	NW	4	1.8	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
La Crosse, Wisconsin	29.10	739.1	29.88	758.9	17	— 8 3	83	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair.....	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	25	— 3.9	75	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Laredo, Texas	29.69	754.1	30.04	763.0	40	4.4	100	Calm	0	0	.....	.....	10n	.....	Calm	0.38	9.7	Light rain...	
Leavenworth, Kansas	29.16	740.7	30.06	763.5	22	— 5.6	79	NW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.70	754.4	30.05	763.3	43.2	6.2	59	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Louisville, Kentucky	29.34	745.2	29.92	760.0	37	2.8	81	W	4	1.8	.....	.....	10n	.....	W	0.01	0.3	Light snow..	
Lynchburg, Virginia	29.23	742.4	29.92	760.0	42	5.6	65	S	2	0.9	.....	.....	10ks	.....	Calm	0.36	9.1	Cloudy.....	
Madison, Wisconsin	28.87	733.3	29.91	759.7	21	— 6.1	72	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Marquette, Michigan	29.10	739.1	29.85	758.2	12	—11.1	61	NW	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Mason, Texas	28.41	721.6	30.29	769.4	31	— 0.6	78	N	12	5.4	.....	.....	10s	.....	N	0.39	9.9	Cloudy.....	
Memphis, Tennessee	29.71	754.6	30.04	763.0	37	2.8	71	NW	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	
Milwaukee, Wisconsin	29.15	740.4	29.92	760.0	20	— 6.7	71	W	10	4.5	.....	5c	5s	Calm	Calm	0	0	Cloudy.....	
Mobile, Alabama	29.93	760.2	29.98	761.5	52	11.1	90	N	8	3.6	.....	.....	10n	.....	SW	0.01	0.3	Light rain...	
Montgomery, Alabama	29.76	755.9	29.99	761.7	51	10.6	72	NW	4	1.8	.....	.....	10ks	.....	SW	0.35	8.9	Cloudy.....	
Morgantown, West Virginia	28.81	731.8	29.90	759.4	32	0.0	79	NW	4	1.8	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy.....	
Mt. Washington, N. H.	28.80	691.8	29.66	753.4	10	—12.2	79	NW	24	10.7	.....	1k	5ks	Calm	NW	0.49	12.4	Clear.....	
Nashville, Tennessee	29.42	747.2	29.96	761.0	38	3.3	91	W	5	2.2	.....	.....	10s	.....	.....	0.01	0.3	Cloudy.....	
New Haven, Connecticut	29.72	754.9	29.84	757.9	30	— 1.1	82	N	3	1.3	.....	5cs	5s	Calm	Calm	0.23	5.8	Cloudy.....	
New London, Connecticut	29.77	756.1	29.82	757.4	30	— 1.1	89	Calm	0	0	.....	.....	10s	.....	Calm	0.21	5.3	Cloudy.....	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	52	11.1	86	NE	9	4.0	.....	.....	10n	.....	Calm	0.23	5.8	Light rain...	
Newport, Rhode Island	29.75	755.6	29.80	756.9	29.5	— 1.4	84	NW	1	0.4	.....	5cs	4s	Calm	Calm	0.22	5.6	Clearing.....	
New York, New York	29.70	754.4	29.89	759.2	31	— 0.6	79	Calm	0	0	.....	Haze	Sm'e	.....	.....	0.31	7.9	Dense smoke	
Norfolk, Virginia	29.86	758.4	29.92	760.0	39	3.9	82	SE	2	0.9	.....	.....	10s	.....	Calm	0.25	6.3	Cloudy.....	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.03	686.6	29.89	759.2	— 4	—20.0	75	NW	12	5.4		0	0			Inap.	Inap.	Clear	
Olympia, Washington Ter.	29.85	758.2	29.88	758.9	37.9	2.9	90	S	8	3.6			10n		S	0.07	1.8	Light rain	
Omaha, Nebraska	28.80	731.5	29.98	761.5	16	— 8.9	83	W	6	2.7		0	0			0	0	Clear	
Oswego, New York	29.59	751.6	29.92	760.0	29	— 1.7	78	E	2	0.9		5k	2s	NW		0.11	2.8	Fair	
Pembina, Dakota	29.03	737.3	29.94	760.5	1	—17.2	100	NW	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Philadelphia, Pa	29.86	758.4	29.91	759.7	33	0.6	70	NW	8	3.6			10s;fg		Calm	0.18	4.6	Cloudy	
Phœnix, Arizona	28.88	733.5	30.78	781.8	34	1.1	79	Calm			0	0	0			0	0	Clear	
Pike's Peak, Colorado	17.32	439.9	29.54	750.3	— 7	—21.7	19	N	32	14.3		0	0			0.04	1.0	Clear	
Pioche, Nevada	23.99	609.3	29.76	755.9	12	—11.1	61	NW	2	0.9		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.07	738.4	29.91	759.7	31	— 0.6	89	NW	6	2.2			10s		NW	0.13	3.3	Cloudy	
Port Huron, Michigan	29.20	741.7	29.89	759.2	26	— 3.3	88	N	2	0.9			10s		Calm	0	0	Cloudy	
Portland, Maine	29.74	755.4	29.79	756.7	25	— 3.9	87	NW	4	1.8		0	Haze			0.06	1.5	Clear	
Portland, Oregon	29.97	761.2	30.07	763.8	39.0	3.9	82	S	15	6.7			10n			0.01	0.3	Light rain	
Prescott, Arizona	24.64	625.8	30.00	762.0	16	— 8.9	83	Calm	0	0		0	0			0	0	Clear	
Pilot Point, Texas	29.05	737.9	29.90	759.4	40	4.4	73	N	7	3.1		8k	2s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	64	17.8	89	SE	7	3.1		0	0			0	0	Clear	
Red Bluff, California	29.74	755.4	30.12	765.0	34	1.1	71	N	4	1.8		2c	0	Calm		0	0	Clear	
Rio Grande City, Texas	29.97	761.2	30.20	767.1	45	7.2	100	N	12	5.4			10s		N	0	0	Cloudy	
Rochester, New York	29.25	742.9	29.88	758.9	27	— 2.8	100	NW	7	3.1			10n		Calm	0.10	2.5	Light snow	
Roseburg, Oregon	29.61	752.1	30.21	767.3	30.6	— 1.1	89	S	1	0.4		10cs	0	W		0	0	Cloudy	
Sacramento, California	30.02	762.5	30.10	764.5	36.5	2.5	85	S	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.43	747.5	30.03	762.8	31	— 0.6	89	N	5	1.0			10s		Calm	0.01	0.3	Cloudy	
St. Marks, Florida	29.91	759.7	29.92	760.0	63	17.2	94	SW	7	3.1			10s;fg		Calm	0.06	1.5	Cloudy	
St. Paul, Minnesota	29.95	760.7	29.84	757.9	7	—13.9	80	SW	8	3.6			10s		Calm	0	0	Cloudy	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	18	— 7.8	53	SE	4	1.8		10k		NW		0	0	Cloudy	
San Antonio, Texas	29.39	746.5	30.00	762.0	39	3.9	73	N	8	3.6			10s		Calm	0.50	12.7	Cloudy	
San Diego, California	30.00	762.0	30.08	764.0	42	5.6	62	NE	4	1.8		0	0			0	0	Clear	
Sandusky, Ohio	29.22	742.2	29.91	759.7	33	0.6	79	Calm	0	0			10s		Calm	0.06	1.5	Cloudy	
Sandy Hook, New Jersey	29.83	757.7	29.87	758.7	31	— 0.6	79	NW	7	3.1		10cs	0	W		0.29	7.4	Cloudy	
San Francisco, California	30.04	763.0	30.11	764.8	45	7.2	76	SW	4	1.8		0	0			0	0	Clear	
Santa Fé, New Mexico	23.09	586.5	29.63	752.6	2	—16.7	44	NW	6	2.7		0	0			0	0	Clear	
Savannah, Georgia	29.85	758.2	29.94	760.5	59	15.0	88	SW	4	1.8			10s			0.07	1.8	Cloudy	
Shreveport, Louisiana	29.86	758.4	30.09	764.3	39	3.9	82	NW	2	0.9			10s		NW	0.20	5.1	Cloudy	
Silver City, New Mexico	24.18	614.2	30.09	770.5	20	— 6.7	70	SW	2	0.9		0	0			0.08	2.0	Clear	
Smithville, North Carolina	29.90	759.4	29.93	760.2	51	10.6	86	N	4	1.8			10s		W	0.03	0.8	Cloudy	
Springfield, Massachusetts	29.72	754.9	29.85	758.2	30	— 1.1	68	N	8	1.3			10s		N	0.17	4.3	Cloudy	
Stockton, Texas	26.94	684.3	29.94	760.5	29	— 1.7	89	N	12	5.4			10s		Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.74	755.4	29.80	756.9	30	— 1.1	67	N	10	4.5			10s		N	0.26	6.6	Cloudy	
Toledo, Ohio	29.19	741.4	29.89	759.2	35	1.7	61	W	1	0.4			10s		Calm	0.02	0.5	Cloudy	
Tucson, Arizona					33	0.6	33	NW	1	0.4		0	0			0	0	Clear	
Tybee Island, Georgia	29.92	760.0	29.95	760.7	67	19.9	94	SW	4	1.8			10ks		SW	0.06	1.5	Threatening	
Umatilla, Oregon	29.62	752.3	30.13	765.3	33.5	0.8	79	E	2	0.9			10ks		W	0	0	Cloudy	
Unalashka, Aleutian Islands					36	2.2	70	SE			7		10s		S	0	0	Cloudy	
Uvalde, Texas	29.23	742.4	30.09	764.3	39	3.9	64	NE	5	2.2			10n		NE	0.27	6.9	Light rain	
Vicksburg, Mississippi	29.80	756.9	30.07	763.8	45	7.2	96	NW	5	2.2			10n		Calm	0.21	5.3	Light rain	
Virginia City, Montana	24.00	609.6	29.48	748.8	26	— 3.9	62	SW	18	8.0			10s		Calm	0	0	Cloudy	
Visalia, California	29.72	754.9	30.11	764.8	38	3.3	77	SE	3	1.3		0	0			0	0	Clear	
Washington, D. C.	29.78	756.4	29.90	759.4	36	2.2	80	N	8	3.6			10s		W	0.52	13.2	Cloudy	
Wickenburg, Arizona					33	0.6	70	NW			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.84	757.9	29.92	760.0	51	10.6	78	NE	3	1.3			10s		Calm	0.05	1.3	Cloudy	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	16	— 8.9	66	SW	3	1.3		0	0			0	0	Clear	
Wood's Holl, Mass	29.75	755.6	29.79	756.7	32	0.0	79	N	10	4.5			10s		Calm	0.35	8.9	Cloudy	
Yankton, Dakota	28.65	727.7	30.04	763.0	12	—11.1	70	NW	10	4.5		0	0			0	0	Clear	
Yuma, Arizona	29.90	759.4	30.07	763.8	42	5.6	42	NE	3	1.3		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	28.47	723.1	29.95	760.7	26	— 3.3	88												J. B. Gordon.
Havana, Cuba, W. I.	29.98	761.5	30.03	762.8	70	21.1	79	E	1.2	0.5		0	0			0	0	Clear	Chas. Hasselbriuk.
Kingston, Jamaica, W. I.																			James Gall.
Medellin, Colombia, S. A.																			Thomas Herran.
Navassa, W. I.	29.98	761.5	30.06	763.5	79	26.1		E	15.4	6.9						0	0	Hazy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.04	763.0	30.04	763.0	79	26.1	87	E			3	0	5k			0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.																			Robert Mason.
St. Thomas, W. I.																			G. O. Gellich.
York Factory, B. A.	30.00	762.0	30.06	763.5	—34.0	—36.7		NW	14	6.3		0	0			0	0	Clear	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,709 (?) ft., or 633.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,192 ft., or 1,583.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,208 (?) ft., or 1,586.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,870 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.03	762.8	46	7.8	39	3.9	90	Calm	0	0	.....	.....	10ks	.....	SW	Inap.	Inap.	.....	.....	Overcas	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	56	13 3	100	N	10	4.5	.....	.....	.....	.....	N	.....	.....	.....	.....	Storming.....	
Navy Yard, Portsmouth, N.H	29.83	757.7	60	15.6	22	— 5.6	86	W	2	0.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Naval Hospital, Yokohama, Japan.....*	30.35‡	770.9‡	.....	.....	40.1	4.5	78	NNE	.....	.....	2	.....	10n	.....	NE	.....	.....	.....	.....	Light rain...	
Adams, S. 10° 15′, W. 79°.....	29.94	760.5	73	22.8	71	21.7	95	SE	.....	.....	2	.....	5	.....	S;E	.....	.....	Smooth	.....	Fair.....	
Alaska, N. 17° 02′, W. 100° 41′.....	30.03	762.8	79	26.1	76	24.4	73	NW	.....	.....	2	.....	2	.....	SE	0	0	Smooth	.....	D. clouds.....	
Alliance, N. 38° 05′, E. 15° 36′.....	29.89‡	759.2‡	.....	.....	56	13.3	75	N	.....	.....	2	.....	10	.....	N	.....	.....	Long	S	Threatening	
Ashuelot, N. 21° 28′, E. 109° 05′.....	30.06‡	763.5‡	.....	.....	64	17.8	83	ESE	.....	.....	4	.....	8	.....	SSW	.....	.....	Smooth	.....	Fair.....	
Canonicus, New Orleans, La.....	29.94	760.5	42	5.6	51	10.6	100	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	29.83	757.7	31	— 0.6	31	— 0.6	90	NW	5	2.2	.....	.....	10	.....	NW	0	0	.....	.....	Misty.....	
Constitution, N. 47° 30′, W. 14° 43′.....	29.87‡	758.7‡	.....	.....	53	11.7	??	WSW	.....	.....	5	.....	9	.....	wsw	.....	.....	Long	W	Overcast.....	
Despatch, Constantinople, Turkey	30.22‡	767.6‡	.....	.....	52	11.1	93	NNE	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Essex, S 5° 02′, W. 57° 41′.....	29.67	753.6	59	15.0	50	10.0	100	SSW	.....	.....	2	.....	8	.....	SW	.....	.....	Smooth	.....	Fair	
Franklin, Norfolk, Va.....	30.05	763.3	69	20.6	40	4.4	82	S	36	1.6	.....	.....	10	.....	NW	2.6	66.	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.86‡	758.4‡	.....	.....	52	11.1	86	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	.....	Fair	
Hartford, Montevideo, Uruguay...	29.62	752.3	80	26.7	76	24.4	86	W	18.0	8.0	.....	.....	2	.....	.....	0.80	20.3	Smooth	.....	Fair	
Lackawana, Panama.....*...	29.64‡	752.8‡	.....	.....	78	25.6	91	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....	30.04†	763.0†	.....	.....	23	— 5.6	73	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Monocacy, Shanghai, China.....*	30.49‡	774.4‡	.....	.....	37	2.8	81	NE	.....	.....	1	.....	2	.....	NE	.....	.....	.....	.....	Fair	
Monongehela, Yokohama, Japan ....*..	30.35‡	770.9‡	.....	.....	38	3.3	100	NNW	.....	.....	1	.....	10	.....	N	0	0	.....	.....	Showery.....	
New Hampshire, Port Royal, S. C.....	29.96	761.0	58	14.4	57	13.9	94	WSW	8	3.6	.....	.....	10	.....	W	0.18	4.6	.....	.....	Cloudy.....	
Onward, Callao, Peru.....	29.98†	761.5†	.....	.....	67	19.4	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China.....	30.39	771.9	33	0.6	29	— 1.7	78	NW	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	36	2.2	80	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Pensacola, S. 10° 02′, W. 94° 50′.....	29.91‡	759.7‡	.....	.....	75	23.9	77	SE	11	4.9	.....	.....	5	.....	SE	0	0	Smooth	SE	Fair	
Powhatan, N. 21° 15′, W. 66° 59′.....	30.23	767.8	78	25.6	77	25.0	82	ESE	.....	.....	5	.....	5	....	.....	.....	.....	.....	.....	Fair	
Quinnebang, N 41° 32′, E. 3° 18′.....	29.96‡	761.0‡	.....	.....	56	13.3	81	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Ranger. Yokohama, Japan.....*...	30.36‡	771.1‡	.....	.....	46	7.8	77	N	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Rainy	
Richmond, Gibraltar.....	30.35‡	770.9‡	.....	.....	63	17.2	73	WNW	.....	.....	2	.....	10	.....	SW	.....	.....	Smooth	W	Cloudy.....	
Rio Bravo. Brownsville, Texas.....	29.92	760 0	56	13.3	46	7.8	92	NNW	.....	.....	3	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	29.91‡	759.7‡	.....	.....	34	1.1	100	NNW	.....	.....	1	.....	10	.....	.....	0.06	1.5	.....	.....	Hazy.....	
St. Louis, League Island, Pa.....	29.85	758.2	57	13 9	30	— 1.1	.....	NNW	3	1.3	.....	.....	10	.....	N	0.1	3.	.....	.....	Cloudy.....	
Supply, N. 29° 35′, W. 19° 27′.	30.39‡	771.9‡	.....	.....	66	18.9	84	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Trenton Villafranca, France *...	29.88‡	758.9‡	.....	.....	57	13.9	87	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, Petallan, Mexico.....	29.92‡	760.0‡	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	8	.....	Calm	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	29.84‡	757.9‡	.....	.....	30	— 1.1	89	NW	5	2.2	.....	.....	5	.....	.....	.....	.....	.....	.....	Hazy.....	
Wyoming, Smyrna, Turkey.....	30.26	768.6	68	20.0	67	19.4	84	S	.....	.....	2	.....	2	.....	S	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 36° 30', W. 121° 46'.. †		30.09‡	764.3‡	52	11.1	93	NW			3		4		NW	0	Mod'ate	W	Misty	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Granada, N. 17° 20', W. 101° 06'..†*		30.08‡	764.0‡	78	25.6	??	WNW			4		0			0			Dense haze	R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, S. 27° 57', W. 178° 46'...*		29.93	760.2				SE			2				SSE		Long mod'ate	S;SE	Fine	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is no. known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			
S. S. Baltic																			
S. S. Britannic, N. 48° 06' W. 37° 21'...†*		29.32‡	744.7‡	46	7.8		W			6		2		W	Blank	High	W	Squally	Capt. J. W. Jenning.
S. S. Celtic																			Capt. H. Perry.
S. S. Germanic																			Capt. B. Gleadell.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 52', E. 172° 56'...*		29.94‡	760.5‡	60	15.6	76	NNW			5		k		NW		Rough cross	W	Showery	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 52° 33', E. 3° 26'		29.56	750.8	37.6	3.1		SSW			5		10		W		4	SW	Foggy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool	*	29.21‡	741.9‡	45	7.2	92	SW			6		7		SW	0			Cloudy	Captain Sargent.
S. S. Ohio																			Captain Morrison.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 7, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.35	770.8	62.1	16.7	.....	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.25	768.3	63.7	17.6	78	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	30.13	765.3	62.6	17.0	66	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.10	764.4	59.7	15.4	81	NW	.....	.....	4	.....	8	.....	.....	0.276	7.0	Very cloudy	Foufrede.
Tunis	.....	.....	30.05	763.3	59.9	15.5	66	NNW	.....	.....	6	.....	8	.....	.....	0.087	2.2	Very cloudy	Jacques.
Sfax	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.17	766.3	59.4	15.2	58	NW	.....	.....	4	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	30.17	766.3	50.4	10.2	46	NW	.....	.....	5	.....	8	.....	.....	0.067	1.7	Very cloudy	Watric.
Geriville	.....	.....	30.21	767.2	54.0	12.2	95	N	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.22	767.5	63.3	17.4	43	NW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.15	765.7	71.1	21.7	27	NW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.52	749.8	30.08	764.1	44.6	7.0	86	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.16	740.6	29.95	760.7	38.1	3.4	80	WSW	.....	.....	1	.....	5	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.10	739.1	30.01	762.3	36.7	2.6	91	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	*Julius Mikolik.*
Gratz	28.79	731.2	30.08	764.1	37.8	3.2	86	SW	.....	.....	1	.....	0	.....	.....	0.079	2.0	.....	Andreas Rosplini.
Hermannstadt	28.66	725.5	30.03	762.7	40.8	4.9	89	SSE	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.60	726.3	29.97	761.1	42.4	5.8	79	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.87	733.2	29.88	759.0	36.9	2.7	60	W	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.37	758.6	29.98	761.5	54.5	12.5	58	ENE	.....	.....	2	.....	3	.....	.....	0.039	1.0	.....	I.R.Hydrographic Office.
Szathmar	29.58	751.4	30.07	763.6	41.0	5.0	84	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.76	755.9	30.05	763.2	41.0	5.0	94	E	.....	.....	1	.....	10	.....	.....	0	0	.....	*Karl Stancel.*
Trieste	29.91	759.8	30.02	762.4	51.8	11.0	70	NE	.....	.....	1	.....	0	.....	.....	0	0	Fair	P. Busin.
Vienna	29.29	744.0	30.03	762.8	39.6	4.2	74	S	.....	.....	1	.....	0	.....	.....	0	0	Foggy	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	28.84	732.5	28.94	735.1	44.4	6.9		SSW	11	4.9			3			0	0	Blue sky	W. Boswell.
Ardrossan	28.99	736.3	29.01	736.8	45	7.2		SW			3		5					D. clouds	William McNeil.
Armagh, Observatory			29.05	737.9	47.4	8.6		SSW	11	4.9			6					D. clouds	S. Call.
Bidston, (Liverpool Obs.)			29.09	738.9	45.4	7.4		SE	13	5.8			10					Raining	John Hartnup.
Bolton, (Sharples)			29.12	739.6	43.4	6.3		S	12	5.4			10					Raining	Thomas Mackereth.
Bradford, Yorkshire	28.70	729.0	29.10	739.1	47.1	8.4		W			3		10			0.12	3.0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	79	26.1		NE			2		3					D. clouds	Pvt. J. Surgener, A. H.
Cambridge, Observatory			29.24	742.7	50.0	10.0		SW			4		10					Raining	H. Todd. [O.
Cardington			29.25	742.9	52.0	11.1		S			5		9					Overcast	John McLaren.
Chatham, School M. E.	29.24	742.7	29.37	746.0	48.4	9.1		SW			4		10					Raining	Corpl. Daly, R. E.
Dartmoor	28.10	713.7	29.58	751.3	41.0	5.0		NW			4		6					Squally	Alexander Watt.
Donaghadee	29.00	736.6	29.04	737.6	48	8.9		SW			3		3					D. clouds	J. Mac Gowan.
Dover	29.44	747.8	29.46	748.3	41	6.7		SW			6		10					Raining	J. Costello.
Falmouth, Observatory	29.12	739.6	29.34	745.2	49.8	9.9		SW			6		10					Overcast	The Staff.
Fort Napier, (Natal)	27.40	696.0	29.72	754.9	76.6	24.8		E			3		9					Overcast	Pvt. S. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	86	30.0		E			1		3					D. clouds	
Galway, Queen's College			29.01	736 8	47	8.3		SW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.21	767.3	30.26	768.6	62.2	16.8		W			2		1					Blue sky	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	28.79	731.3	29.00	736.6	47.0	8.3		WSW			5		3					D. clouds	D. G. Maclean.
Great Yarmouth	29.31	744.5	29.31	744.5	46	7.8		SSW			4		8					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.15	740.4	29.32	744.7	49.2	9.6		SSW			4		10					Raining	The Staff, for G. B. Airy
Guernsey	29.25	742.9	29.48	748.8	50.5	10.3		SW			5		5					D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.32	744.7	29.44	747.8	52	11.1		SW			4		10k			0.35	8.9	Raining	M. P. Moyle.
Holyhead	29.04	737.6	29.09	738.9	46	7.8		SSW			3		10					Raining	John Tilston.
Jersey	29.22	742.2	29.51	749.5	50.2	10.1		SW			6		10					Overcast	J. Fisher.
Kew, Observatory	29.29	744.0	29.32	744.7	49.5	9.7		SSW	26	11.6			10					Raining	The Meteorological Of.
Leicester, Museum	28.91	734.3	29.16	740.7	49.5	9.7		SW			5		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.82	757.4	29.89	759.2	57	13.9		NW			1		6ks					Overcast	Sergt. H. J. Beckert, A. H. C.
Nairn	28.72	729.5	28.81	731.8	47	8.3		SW			5		0					Clear	W. D. Penny.
Nassau, (Bahamas)			30.11	764.8	72.0	22.2		SE			1		5					D. clouds	C. S. Duncombe.
Nottingham, Observatory	28.95	735.3	29.14	740.1	49.5	9.7		SSW			5		10n		SSW	0.165	4.19	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.63	727.2	29.15	740.4	47.5	8.6		S			6		10					Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.26	743.2	51	10 6		S			5		10					Gloomy	H. E. Bellamy.
Plymouth	29.28	743.7	29.55	750.6	50.2	10.1		WSW			4		10					Overcast	John Merrifield.
Roche's Point	29.06	738.1	29.10	739.1	52	11.1		WSW			5		10					Overcast	W. Kennedy.
Saint Ann's Head	29.03	737.8	29.19	741.4	47	8.3		SW			4		2					Foggy	John C. Walker.
Sandwick Manse, (Orkneys.)			28.79	731.3	41.8	5.4		SSE	18	8.0			10					Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			29.98	761.5	54.0	12.2		N			1		5					D. clouds	W. H. Lyne.
Sheffield	28.86	733.0	29.14	740.1	47.0	8.3		SW			2		10			0.25	6.3	Raining	W. F. Cooper.
Silloth Rectory	29.01	736.8	29.04	737.6	45.0	7.2	90	Calm			0		10			0.050	1.27	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	28.89	728.7	29.10	739.1	44.0	6.7		SW			1		10					Raining	Rev. S. J. Perry.
Stratfield Turgiss	29.14	740.1	29.35	745.5	49.6	9.8		S			2-3		10					Raining	C. H. Griffith, F. M. S.
Thurso	28.73	729.7	28.79	731.3	45	7.2		SSE			2		7					D. clouds	John Trotter.
Truro, Royal Institution			29.37	746.0	54	12.2		SW			7		10					Raining	W. Newcombe.
Valencia, Observatory	29.11	739.4	29.13	739.9	46.2	7.9		WSW	14	6.3			10					Raining	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)																			Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.03	737.3	48.0	8.9		W			2	10cs				0	0	Hazy	Andrew Gibb.
Mauritius, Observatory			29.97	761.2	81.0	27.2	61	E	18.5	8.3		8	2	WSW	ESE	0.01	0.3	Squally	C. Meldrum.
Melbourne, Observatory	29.82	757.4	29.92	759.9	67.4	19.7	80	Calm	0	0			5			0	0	Dense haze	R. L. J. Ellery.
Monach L't-house, (Hebrides)			28.82	732.0	45	7.2		W			9	5	5	W		0.3	8.		J. Youngclause.
North Unst, (Shetland Is.)			28.78	731.0	42	5.6		S			6		10			Blank	Blank		Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
H. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.23	666.2	29.95	760.7	67.6	19.8	90	Calm	.....	.....	0	.....	10s	.....	NE	0	0	Covered	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.41	747.1	29.46	748.3	36.0	2.2	94	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	
Fanöe	29.38	746.2	29.40	746.7	34.0	1.1	100	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	
Godthaab, (Greenland)	29.47	748.6	29.52	749.7	16.9	— 8.4	73	NE	.....	.....	5	.....	0	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	28.59	726.1	28.62	727.0	41.0	5.0	89	S	.....	.....	4	.....	8	.....	.....	.....	.....	.....	
Vestervig	29.17	740.9	29.34	745.2	35.2	1.8	100	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.12	739.5	29.07	753.5	46.4	8	97	SW	.....	.....	3	.....	10	.....	.....	0.020	0.5	Raining	Collignon, Director.
Amiens, Normal School	29.52	749.8	29.63	752.6	48.6	9.2	89	S	.....	.....	5	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.98	761.5	30.06	763.5	52.7	11.5	63	NE	.....	.....	1	.....	2	.....	W	0	0	Slightly cl'dy	M. Giraud, Director.
Bar-sur-Seine	29.25	743.0	29.83	757.6	47.5	8.6	97	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.39	746.4	29.67	753.7	47.8	8.8	86	S	.....	.....	2	.....	10	.....	S	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.06	738.1	29.05	760.8	50.4	10.2	72	S	.....	.....	2	.....	2	.....	SW	0.024	0.6	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.06	738.0	29.96	761.1	45.9	7.7	72	S	.....	.....	1	.....	cn	S	S	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.27	743.5	29.53	757.0	49.5	9.7	81	S	.....	.....	3	.....	8	S	S	0	0	Very cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.28	743.7	29.52	749.8	53.2	11.8	86	SW	.....	.....	4	.....	10	.....	SW	0.118	3.00	Foggy	M.de Rermarec, Director
Carcassonne, Normal School	29.58	751.3	29.99	761.8	52.9	11.6	80	NW	.....	.....	2	.....	5	W	NW	0.004	0.1	Cloudy	September, Director.
Caen, Normal School	29.44	747.8	29.52	749.7	52.3	11.3	90	SE	.....	.....	6	.....	5	.....	NE	0.024	0.6	Cloudy	M. Lair, Director.
Chartres, Normal School	29.08	738.7	29.05	753.2	46.2	7.9	89	S	.....	.....	3	.....	9	.....	.....	.....	.....	Raining	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.48	748.7	29.80	756.8	48.2	9.0	84	SSW	.....	.....	3	.....	10	SSW	SSW	.....	.....	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.52	724.5	29.89	759.1	49.6	9.8	54	S	.....	.....	1	.....	10	.....	WSW	0	0	Covered	Alluard, Director.
Commercy, Normal School	28.97	735.7	29.85	758.3	45.3	7.4	88	NW	.....	.....	1	.....	10ks	.....	NW	0.059	1.5	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.93	734.9	30.08	763.9	54.3	12.4	48	N	.....	.....	1	.....	8	SW	.....	.....	.....	.....	M. Kina, Director.
Grenoble, Normal School	29.30	744.2	30.08	764.1	46.4	8	26	NE	.....	.....	1	.....	10n	.....	.....	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.57	751.0	29.78	756.4	54.3	12.4	95	WSW	.....	.....	5	.....	10	.....	.....	0.268	6.8	Raining	Mouillot, Director.
Le Mans, Normal School	29.41	747.0	29.72	754.9	48.0	8.9	97	S	.....	.....	6	.....	8	.....	Calm	0.010	0.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Baudry, Director.
Lorient, Naval Observatory	29.55	750.6	29.65	753.1	54.0	12.2	93	SW	.....	.....	6	.....	.....	.....	SW	0.134	3.4	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.89	731.6	29.86	758.4	45.5	7.5	85	NNE	.....	.....	1	.....	ck	.....	SSW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.84	757.9	30.05	763.2	56.5	13.6	78	S	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.98	736.2	30.07	763.8	46.4	8.0	80	S	.....	.....	1	.....	s	S	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.94	633.5	.....	.....	34.2	1.2	81	S	.....	.....	8	.....	10	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.81	757.1	29.84	757.9	52.7	11.5	99	S	.....	.....	1	.....	.....	.....	.....	0.28	7.	Cloudy	Lt. Decante, Director.
Rouen, Normal School	29.49	749.1	29.58	751.2	50.0	10.0	84	SSE	.....	.....	3	.....	5	.....	SSW	0.110	2.8	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.51	749.5	29.54	750.3	56.7	13.7	72	SW	.....	.....	6	.....	8	SW	SW	0.036	0.92	Covered	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.54	750.4	29.71	754.6	46.0	7.8	89	S	.....	.....	3	.....	10	.....	SSW	0.051	1.3	Covered	E. Renou, Director.
Tarbes, Normal School	28.93	734.9	30.03	762.7	48.2	9	61	W	.....	.....	1	.....	2	SSW	W	0	0	Slightly cl'dy	T. Huguet, Director.
Versailles Observatory	29.19	741.5	29.69	754.0	46.8	8.2	.....	SW	.....	.....	4	.....	10	.....	.....	0.049	1.26	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.30	744.3	30.03	762.8	43.7	6.5	85	SSE	.....	.....	2	.....	8	.....	SE	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.01	762.3	30.04	763.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.98	761.6	48.2	9.0	73	SSW	.....	.....	1	.....	9	.....	.....	0	0	Hazy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.87	631.6	30.18	766.6	40.6	4.8	66	WSW	.....	.....	4	.....	10	.....	.....	0.039	1.0	.....	M. Cave.
*Nice	.....	.....	30.08	763.7	56.5	13.6	80	W	.....	.....	4	.....	5	.....	.....	0	0	Slightly cl'dy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.42	747.2	.....	.....	45.3	7.4	94	S	.....	.....	6	.....	10	.....	SSW	0.035	0.9	Raining	Marié Davy, Director.
Perpignan	29.95	760.8	30.06	763.5	52.5	11.4	75	E	1.8	0.8	.....	.....	8	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	35.6	2.0	.....	W	.....	.....	3	.....	8	.....	.....	0	0	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.50	571.6	.....	.....	51.1	10.6	86	SSE	.....	.....	3	.....	7	.....	.....	0.524	13.3	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.32	744.6	30.04	763.0	51.1	10.6	86	SSE	.....	.....	3	.....	7	.....	.....	0.169	4.3	.....	M. Mercadier Juller.
Tours	29.57	751.1	29.69	754.1	49.6	9.8	89	SSW	.....	.....	6	.....	10	.....	SSW	0	0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.03	775.4	30.55	776.0	32.5	0.3	90	N	11.2	5.0	.....	.....	10n	.....	.....	0.079	2.0	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,886.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.03	737.4	29.87	758.7	45.7	7.6	80	SW			2		5	SW		0.012	0.3		Prof. Dr. Hoh.
Berlin	29.58	751.4	29.76	755.9	43.0	6.1	79	SW			1		9			0.110	2.8		Prof. Arndt.
Breslau	29.34	745.1	29.86	758.5	42.1	5.6	74	SW			3		1			0.001	0.02		Royal University Obs'y
Carlsruhe	29.42	747.2	29.84	758.0	50.7	10.4	64	SW			4		10	SW		0.004	0.1		Albert Senx.
Cassel	29.16	740.7	29.76	756.0	41.5	5.3	87	SW			2		10	SW		0.222	5.64	Raining	Dr. H. Möhl.
Crefeld	29.51	749.6	29.67	753.7	47.3	8.5	80	S			3		10			0.04	1.		Director Lose.
Emden					41.9	5.5	92	SW			2		10			0.16	4.		Prof. Prestel.
Frankfort on the Main	29.47	748.5	29.84	758.0	46.0	7.8		SSW			2		10			0.016	0.4		Physical Society.
Friedrichshafen	28.50	723.8	29.87	758.7	45.7	7.6	75	SW			1		5	SW		0.024	0.6	Light rain	M. Wilhelm.
Hamburg	29.54	750.2	29.57	751.0	40 3	4.6	94	SW			4		10			0.161	4.1	Dull	Captain F. Hegemann.
Kiel	29.53	750.0	29.54	750.4	38.3	3.5	94	SW			3		10			0.102	2.6		Prof. G. Karsten.
Königsberg, (Prussia)	29.51	749.6	29.60	751.7	36.3	2.4	91	SW			6		10			0.122	3.1		Prof. E. Luther.
Köslin			29.58	751.3	36.7	2.6		SW			2		4			0.126	3.2		H. Müller.
Leipsic, Observatory	29.39	746.6	29.82	757.5	43.7	6.5	74	SSW			3		8	WSW		0.012	0.3		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.48	748.8	29.63	750.0	34.7	1.5	96	SW			5		10n					Raining	Skalweit.
Neufahrwasser	29.60	751.7	29.61	752.1	38.7	3.7	85	SW			4		10			0	0		A. Lothes.
Posen	29.51	749.6	29.81	757.1	40.6	4.8	84	W			4		9			0.028	0.7	Raining	Dr. Magener.
Strassburg (in Alsace)	29.34	745.3	29.89	759.3	51.1	10.6	69	S			3		7	W		0.006	0.16		Imp. University Observatory.
Stuttgart	28.95	735.4	29.88	758.9	49.6	9.8	62	SW			1		8	W		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.39	721.2	29.91	759.8	45.9	7.7	68	SW	11	5			10cs;k	NW		0	0		Dr. Van Bebber.
Wustrow, Naval School	29.54	750.3	29.56	750.9	36 7	2.6	98	SW			6		10			0.138	3.5	Foggy	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.9	29.88	758.9	59.4	15.2		NE			0.5							Covered	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.02	762.5	30.07	763.8	69.8	21.0	67	ENE	13	5.8			0			0	0	Blue sky	
Dessa	29.49	749.0	29.97	761.1	77.7	25.4	26	WNW	10.0	4.5			0			0	0	Blue sky	
Bombay	29.90	759.3	29.93	760.3	78.7	25.9	61	NNW	22	9.8			8	WSW		0	0	D. clouds	
Poonah	27.90	708.6	29.88	759.1	83.3	28.5		ENE					0			0	0	Blue sky	
Lahore	29.22	742.2	29.99	761.8	63.6	17.6	34	Calm	2.3	1.0						0	0	Blue sky	
Belgaum	27.38	695.5	29.89	759.2	83.1	28.4	35	Calm					1			0	0	D. clouds	
Roorkee	29.05	737.9	29.98	761.5	63.8	17.7	25	NW	4	1.8			0			0	0	Blue sky	
Agra	29.43	747.5	30.01	762.3	67.7	19.8	38	W								0	0		
Nagpur	28.88	733.4	29.91	759.8	84.6	29.2	28	Calm	1.9	0.8						0	0	Blue sky	
Lucknow	29.60	751.8	29.98	761.6	66.4	19.1	59	NW	0.8	0.4						0	0	Blue sky	
Allahabad	29.67	753.6	29.99	761.7	70.4	21.3	45	Calm	1.8	0.8			0			0	0	Blue sky	
Patna	29.78	756.5	29.97	761.3	70.5	21.4	57	W	0.7	0.3			0			0	0	Blue sky	
Hazaribagh	27.93	709.4	29.98	761.4	70.8	21.6	24	NW	4.5	2.0			0			0	0	Blue sky	
Cuttack	29.88	758.9	29.96	761.0	80.4	26.9	57	S	2.7	1.2			0			0	0	Blue sky	
Calcutta (Alipore)	29.95	760.6	29.97	761.2	72.7	22.6	56	ESE	1.0	0.4			0			0	0	Blue sky	
Goalpara	29.57	751.0	29.97	761.1	70.7	21.5	56	E	7.0	3.1			0			0	0	Blue sky	
Chittagong	29.84	758.0	29.94	760.5	71.8	22.1	92	W	5.1	2.3			0			0	0	Blue sky	
Sibsagar	29.69	754.1	30.04	762.9	64.0	17.8	83	ENE	1.3	0.6			0			0	0		
Jubbulpore	28.56	725.4	29.93	760.3	78.6	25.9	36	Calm	1.7	0.8			10	W	W	0.05	1.3	D. clouds	
													0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,551 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	751.9	30.02	762.6	53.4	11.9	46	E	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.92	759.9	30.03	762.7	52.3	11.3	55	N	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.52	749.9	30.06	763.5	42.8	6.0	94	NNE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.14	740.1	30.07	763.8	46.4	8.0	79	E	1.8	0.8	.....	.....	8	SW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.12	714.1	30.06	763.5	47.1	8.4	50	N	.....	.....	2	.....	8	NW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.84	757.8	30.03	762.8	56.8	13.8	49	SW	0.7	0.3	.....	.....	6	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.76	755.9	30.02	762.5	54.5	12.5	54	N	.....	.....	4	.....	1	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.91	759.8	30.00	761.9	54.0	12.2	70	NNW	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.97	761.3	30.02	762.6	46.8	8.2	92	NE	18.1	8.1	.....	.....	9	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.78	755.1	29.91	759.6	59.0	15.0	57	N	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Prof P S. Ferrari.
Lecce	29.58	751.2	29.83	757.7	53.8	12.1	89	ENE	7.4	3.3	.....	.....	8	SE	.....	0.264	6.7	.....	Prof. C. De Giorgi.
Cagliari	29.80	756.8	29.99	761.7	57.7	14.3	52	W	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.95	735.2	29.84	757.9	54 7	12.6	74	NW	1.8	0.8	.....	.....	8	.....	.....	0.173	4.4	.....	Prof. D. Conti.
Palermo	29.66	753.4	29.92	760.0	56.1	13.4	65	WNW	22.4	10.0	.....	.....	10	NW	.....	0.067	1.7	.....	Prof. G. Cacciatore.
Syracuse	29.77	756.2	29.85	758.1	58.1	14.5	70	NNE	6.3	2.8	.....	.....	10	WNW	.....	0.134	3.4	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.37	746.0	29.93	760.1	58.1	14.5	59	ENE	3.1	1.4	.....	.....	5	.....	.....	0.024	0.6	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 456 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	.....	.....	.....	.....	43.5	6.4	88	N	1.3	0.6	.....	.....	10;ok	.....	W	0.005	0.13	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.96	761.0	30.16	766.0	46.8	8.2	72	NW	6.4	2.9	.....	.....	10;ok	.....	W	0.009	0.23	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	29.90	759.4	29.97	761.2	40.1	4.5	97	NNW	3.0	1.3	.....	.....	10s	.....	.....	0.055	1.40	Foggy	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	30.25	768 4	41.0	5.0	63	Calm	.....	.....	0	0	1k	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	25.05	636.2	30.04	763.0	55.6	13.1	78	S	.....	.....	2	4c	5k	SW	S	Inap.	Inap.	Very cloudy	Prof. L. Perez.
Leon	24.41	620.0	30.04	763.0	56.6	13.1	78	Calm	0	0	.....	10c	0	.....	.....	0	0	Covered	Prof. M. Leal.
Mexico, Central Obs'y	23.03	584.9	30.15	765.8	46.4	8.0	57	Calm	.....	.....	0	0	10	.....	SW	0.126	3.2	Misty	The Staff.
Pabellon, (Aguascallentes)	.....	.....	.....	.....	46.9	8.3	90	Calm	.....	.....	4	0	10	.....	N	0.024	0.6	Raining	M. V. de Leon, M. E
Tlacotalpam	30.06	763.5	30.07	763.8	66.2	19	83	N	.....	.....	1	1	4	W	SW	0.091	2.3	½ clouded	M. M. Cházaro.
San Luis Potosi	24.19	614.4	30.10	764 5	53.0	11.7	48	SW	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. Barroeta, M D.
Vera-Cruz	30.07	763.8	30.10	764.5	68.0	20.0	72	N	21.2	9.5	.....	.....	10sk	.....	N	0	0	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.38	593.7	30.13	765.2	47.3	8.5	90	ENE	0	0	.....	.....	2ck	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.4	30.07	763.7	72.7	22.6	83	NE	.....	.....	1	.....	3	.....	W	0	0	½ clouded	R. Banda, C. E.
San Juan E. Michapam	29.89	759.4	30.03	762.6	70.5	21.4	.....	NW	.....	.....	1	6n	4n	N	N	0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.63	752.5	29.63	752.5	40.6	4.8	.....	SSW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	29.48	748.9	29.54	750.3	42.8	6.0	.....	S	.....	.....	5	.....	.....	.....	.....	0.130	3.3	.....	
Helder	29.43	747.4	29.43	747.4	43.2	6.2	.....	S	.....	.....	6	.....	.....	.....	.....	0.138	3.5	.....	
Hellevoetsluis	29.62	749.7	29.52	749.7	45.0	7.2	88	SSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.52	749.8	29.57	751.0	46.2	7.9	89	SSW	.....	.....	5	.....	8	.....	.....	0.083	2.1	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.01	736.9	29.07	738.3	38.8	3.8	90	SSE	19.7	8.8	.....	.....	10	.....	.....	0.083	2.1	Light rain ..	
Brönö	29.13	739.8	29.17	740.8	26.6	— 3.0	68	ENE	22	10	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.09	738.8	29.24	742.6	34.0	1.1	87	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.50	749.2	29.54	750.3	10.8	—11.8	82	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.58	751.3	29.77	756.2	59.7	15.4	87	W	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.26	743.1	30.29	769.4	56 3	13.5	80	SW	7.4	3.3	.....	.....	10	SW	.....	0.094	2.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.24	768.0	30.32	770.2	63.1	17.3	68	SE	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.93	760.3	30.29	769.4	59.0	15.0	72	WSW	16.1	7.2	.....	.....	10	.....	.....	0.055	1.4	.....	The Staff.
Ponta Delgada, (Azores)	30.02	762.5	30.09	764.3	64.0	17.8	76	SW	11.9	5.3	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinta, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd,t.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.90	759.4	85.0	29.5	.....	WSW	.....	.....	2	.....	8	.....	WSW	1	.....	D. Clouds ...	J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. da Silva Costa. Porto de Bulama. N. 11° 29', W. 15° 36'	.....	.....	29.93	760.2	80.2	26.8	.....	NE	.....	.....	3	.....	3	.....	.....	1	.....	Blue sky.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.83	757.7	83.8	28 8	.....	WNW	.....	.....	2	.....	3	.....	.....	1	.....	D. clouds....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.21	767.2	63.0	17.2	.....	NE	.....	.....	3	.....	6	.....	NE	1	N	D. clouds.....	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.37	746.0	29.81	757.1	36.3	2.4	87	SW	20	9	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.22	742.2	29.65	753.1	35.8	2.1	91	S	4	2	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.29	744.0	29.54	750.3	30.9	— 0.6	94	S	7	3	.....	.....	10n	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	29.48	748.8	29.50	749.2	27.9	— 2.3	89	S	11	5	.....	.....	10n	.....	.....	.....	.....	Light snow..	Central Physical Obs.
Kieff	29.31	744.5	29.98	761.4	32.4	0.2	92	SSW	9	4	.....	.....	10ks;s	.....	.....	.....	.....	Misty.....	Physical Cabinet.
Nikolaiev	30.10	764.5	30.17	766.3	33.1	0.6	89	SE	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.18	766.6	30.20	767.1	43.9	6.6	85	S	2	1	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.35	745.4	29.94	760.5	12.6	—10.8	90	SSW	7	3	.....	.....	10s	.....	.....	.....	.....	Light snow..	Meteorological Obs.
Lugan	30.06	763.5	30.28	769.2	11.5	—11.4	75	E	4	2	.....	.....	3c	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.50	749.3	29.52	749.8	1.0	—17.2	80	E	13	6	.....	.....	10	.....	.....	.....	.....	Snowing.....	Capt Sseliwerstow.
Tiflis	29.11	739.3	30.61	777.4	37.8	3.2	90	Calm	0	0	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.66	778.7	30.58	776.6	30.6	— 0.8	60	SSE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.85	758.3	30.38	771.7	6.4	—14.2	79	S	18	8	.....	.....	1	.....	.....	.....	.....	Light clouds	Cand. Fatjanow.
Kasan	29.99	761.7	30.29	769.3	3.4	—15.9	83	S	9	4	.....	.....	2	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.30	744.1	30.38	771.6	0.1	—17.7	67	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	28.89	733.9	30.71	780.1	33.1	0.6	92	Calm	0	0	.....	.....	10	.....	.....	Blank	Blank	.....	Teich, A. M.
Barnaul	29.61	752.1	30.15	765.8	13.3	—10.4	66	SSW	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.87	758.6	30.18	766.6	16.9	— 8.4	64	ESE	9	4	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.03	778 3	30.78	781 9	23.7	— 4.6	30	NW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.6 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.96	761.0	30.07	763.7	57.2	14	69	SW	3.0	1.33	.....	.....	8ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.91	759.6	29.96	761 0	66.9	19.4	56	W	4.3	1.93	.....	2	7	W	.....	0.008	0.2	Almost covd.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.15	689.6	.....	.....	62.5	11.4	85	SW	11.1	4.98	.....	.....	7	.....	.....	0.071	1.8	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.93	709.5	.....	.....	56.5	13.6	79	SW	19.9	8.90	.....	2	3	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	30.03	762.7	30.18	766.5	66.7	19.3	65	N	0.5	0.22	.....	4	5	SE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.09	738.8	29.98	761.6	55 6	13.1	98	SW	15.0	6.7	.....	.....	10	.....	.....	0.760	19.3	Raining.....	R. Gil Villanueva, Dir
Sub-Series																			
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.7	29.96	761.1	80.6	27.0	82	E	0	0	.....	.....	2cs	.....	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.25	768.5	30.36	771.1	58.8	14.9	90	WNW	7.6	8.4	.....	0	10	.....	W	0.009	0.2	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.05	763.2	30.14	765.5	79.9	26.6	80	E	7.8	3.49	.....	4kn	3kn	E	E	0.315	8.00	Cloudy.....	Leonardo de Tejada, Ch't. Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	OBSERVER.
Haparanda	29.51	749.5	29.55	750.5	1.0	—17.2	.....	N	.....	.....	4	.....	10	.....	.....	0.236	6.0	.....	
Umea	29.43	747.5	29.48	748.8	7.2	—13.8	92	NE	.....	.....	2	.....	10	.....	.....	0.130	3.3	Snowing	
Hernosand	29.34	745.1	29.39	746.4	14.0	—10.0	94	NNE	.....	.....	4	.....	10	.....	.....	0.012	0.3	Snowing	
Stockholm	29.10	739.1	29.28	743.6	34.2	1.2	96	S	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.26	743.3	29.32	744.8	34.5	1.4	89	W	.....	.....	4	.....	10	.....	.....	0.016	0.4	Raining	
Sub-Series.																			
Upsala	29.19	741.4	29.26	743.3	34.0	1.1	90	E	2.9	1.3	.....	.....	10	.....	.....	0.064	1.62	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.5	30.02	762.6	43.5	6.4	73	W	.....	.....	2	.....	9	.....	.....	0	0	Vapory	The Observatory.
Zurich	28.34	719.8	30.01	762.3	43.2	6.2	68	SW	.....	.....	2	.....	7	.....	.....	0.008	0.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.2 mm.; Thermometer, +3.6 cent.; Relative Humidity, —1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.5	51.4	10.8	81	N	7	3.0	.....	.....	10	.....	SW	.....	.....	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.85	758.3	61.2	16.2	.....	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.86	758.4	29.98	761.4	69.1	20.6	57	NE	.....	.....	1	.....	9c	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.74	755.4	29.81	757.2	15.6	— 9.1	74	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.73	755.1	30.06	763.5	17	— 8.3	.....	S	1	0.4	.....	0	2s	.....	NW	0.03	0.8	Clear	W. R. Bigg.
*Chatham, N B	29.73	755.1	29.79	756.7	13	—10.6	90	W	1	0.4	.....	5ck	0	W	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.68	753.9	29.73	755.1	23	— 5.0	93	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.81	757.2	30.02	762.5	16.0	— 8.9	100	W	.....	.....	4	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.68	753.9	29.73	755.1	31.0	— 0.6	89	Calm	.....	.....	.....	2ck	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.88	758.9	14	—10.0	67	NW	25	11.2	.....	8k	2s	NW	NW	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.88	758.9	13.1	—10.5	79	NW	8	3.6	.....	3c	0	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.33	745.0	30.27	768.8	— 4	—20.0	97	W	6	2.7	.....	5k	5n	W	W	0	0	Cloudy	James Stewart.
Granton, Ontario	28.94	735.1	30.12	765.0	18	— 7.8	.....	SW	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S	29.60	751.8	29.74	755.4	26	— 3.3	85	W	4	1.8	.....	2c	0	W	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.77	756.1	30.17	766.3	23.5	— 4.7	83	SW	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.71	754.6	30.07	763.8	21	— 6.1	93	W	1	0.4	.....	10cs	Sm'e	Calm	W	0.04	1.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.65	753.1	29.69	754.1	27.0	— 2.8	89	SW	4	1.8	.....	0	0	.....	.....	0.05	1.3	Snowing	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.81	757.2	30.08	762.8	19	— 7.2	77	W	6	2.7	.....	.....	10ks	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.23	742.4	29.97	761.2	25	— 3.9	94	SW	17	7.6	.....	.....	10n	.....	SW	0.08	2.0	Light snow	Rev. R. Mosley.
Peterboro, Ontario	29.26	743.2	30.05	763.3	21.4	— 5.9	61	Calm	.....	.....	.....	9k	0	.....	.....	0.10	2.5	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.39	746.5	30.14	765.5	18	— 7.8	98	SW	7	3.1	.....	5k	0	SW	.....	0.02	0.5	Fair	H. Morgan.
Port Hastings, N. S	29.65	753.1	29.70	754.4	23.9	— 4.5	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.47	748.5	30.16	766.1	19	— 7.2	87	W	8	3.6	.....	2k	0	W	.....	Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.53	750.0	30.04	763.0	2	—16.7	83	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.70	754.4	29.75	755.6	21	— 6.1	94	E	.....	.....	4	.....	10n	.....	.....	0.45	11.4	Light snow	Dr. Gove.
St. John, N. B	29.69	754.1	29.80	756.4	18	— 7.8	68	NW	11	4.9	.....	0	5c	.....	.....	0	0	Fine	G. Murdock, C. E.
*Sargeen, Ontario	29.29	744.0	30.04	763.0	25	— 3.9	88	W	21	9.4	.....	.....	10ks	.....	.....	0.04	1.0	Cloudy	K. Stewart.
Stayner, Ontario	29.21	741.9	30.03	762.8	24	— 4.4	91	W	8	3.6	.....	.....	10n	.....	W	0.06	1.5	Light snow	R. J. Cole.
Stratford, Ontario	28.75	730.2	30.13	765.3	18.0	— 7.8	94	W	10.0	4.5	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.67	753.6	29.72	754.9	24	— 4.4	92	Calm	0	0	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow	T. C. Hill.
*Toronto, Ontario	29.70	754.4	30.11	764.8	21	— 6.1	84	SW	6	2.7	.....	.....	8ks	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.67	753.6	29.77	756.1	25.0	— 3.9	81	W	6	2.7	.....	8cs	0	.....	.....	0	0	Fair	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	29.0	— 1.7	100	NE	.....	.....	.....	.....	10	.....	.....	0	0	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From —	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inch.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	29.84	757.9	30.09	764.3	21	— 6.1	86	Calm	0	0	.....	8cs	0	W	.....	0	0	Fair	
Alpena, Michigan	29.40	746.7	30.10	764.5	15	— 9.4	82	W	6	2.7	.....	0	2s	.....	W	Inap.	Inap.	Clear	
Atlanta, Georgia	28.95	735.3	30.14	765.5	37	2.8	80	W	9	4.0	.....	5ck	5s	.....	W	0.07	1.8	Cloudy	
Atlantic City, New Jersey	30.17	766.3	30.19	766.8	30	— 1.1	68	NW	8	3.6	.....	5cs	2ck	N	N	0.05	1.3	Cloudy	
Augusta, Georgia	29.93	760.2	30.11	764.8	48	8.9	78	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Baltimore, Maryland	30.18	766.6	30.23	767.8	32	0.0	69	NW	3	1.3	.....	2k	5s;fg	NW	NW;Calm	0.07	1.8	Foggy	
Barnegat, New Jersey	30.14	765.5	30.16	766.1	29	— 1.7	89	NW	9	4.0	.....	8c;k	0	W	.....	Inap.	Inap.	Fair	
Bismarck, Dakota	28.22	716.8	30.08	764.0	7	—13.9	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.75	730.2	30.15	765.8	29	— 1.7	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.00	685.8	29.96	761.0	28	— 2.2	67	SE	4	1.8	.....	0	8s	.....	SW	0	0	Fair	
Boston, Massachusetts	29.88	758.9	30.15	763.3	19	— 7.2	77	W	7	3.1	.....	1k	0	Calm	.....	0	0	Clear	
Brackettville, Texas	29.12	739.6	30.21	767.3	33	0.6	89	Calm	0	0	.....	.....	Haze	.....	Calm	0.28	7.1	Hazy	
Breckenridge, Minnesota	29.12	739.6	30.22	767.6	10	—12.2	92	NW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	30.21	767.3	30.28	769.1	39	3.9	91	N	6	2.7	.....	.....	10s	.....	Calm	0.63	16.0	Cloudy	
Buffalo, New York	29.38	746.2	30.13	765.3	15	— 9.4	82	SW	6	2.7	.....	0	5s	.....	W	0.07	1.8	Fair	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.75	755.6	30.06	763.5	19.5	— 6.9	77	S	2	0.9	.....	0	5s	.....	Calm	0.03	0.8	Fair	
Cairo, Illinois	29.96	761.0	30.38	771.6	30	— 1.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	35	1.7	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	21	— 6.1	43	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camilo, California	27.52	699.0	30.09	764.3	22	— 5.6	72	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.14	765.5	30.15	765.8	41	5.0	91	NE	16	7.2	.....	.....	10s	.....	NE	0.07	1.8	Cloudy	
Cape Henry, Virginia	30.18	766.6	30.20	767.1	37	2.8	81	N	4	1.8	.....	.....	10s	.....	NW	0.12	3.0	Cloudy	
Cape Lookout, N. Carolina	30.13	765.3	30.15	765.8	44	6.7	84	NE	24	10.7	.....	.....	10s	.....	NE	0.24	6.1	Cloudy	
Cape May, New Jersey	30.16	766.1	30.19	766.8	31	— 0.6	79	NW	16	8.0	.....	2cs	0	NW	.....	0.09	2.3	Fair	
Castroville, Texas	29.46	748.3	30.21	767.3	33	0.6	89	W	4	1.8	.....	5c	0	Calm	.....	0.13	3.3	Fair	
Charleston, South Carolina	30.09	764.3	30.16	766.1	52	11.1	86	N	5	2.2	.....	.....	10s	.....	Calm	0.36	9.1	Cloudy	
Cheyenne, Wyoming	23.86	606.0	29.80	756.9	20	— 6.7	85	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.47	748.5	30.21	767.3	24	— 4.4	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.62	752.3	30.31	769.9	31	— 0.6	79	S	2	0.9	.....	7c	Fog	W	Calm	0.04	1.0	Fair	
Cleveland, Ohio	29.46	748.3	30.23	767.8	22	— 5.6	72	SW	8	3.6	.....	5k	0	W	.....	0.04	1.0	Fair	
Coleman City, Texas	28.40	721.3	30.20	767.1	24	— 4.4	87	Calm	0	0	.....	0	2s	.....	SW	0	0	Fair	
Columbus, Ohio	29.38	746.2	30.28	769.1	26	— 3.3	64	SW	2	0.9	.....	2c	Fog	Calm	Calm	0.02	0.5	Fair	
Corpus, Texas	28.25	717.5	29.93	760.2	24	— 4.4	48	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Corsicana, Texas	29.79	756.7	30.29	769.4	37	2.8	71	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy	
Davenport, Iowa	29.54	750.3	30.23	767.8	22	— 5.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.15	638 8	.....	.....	9	—12.8	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.07	738.4	30.32	770.1	31	— 0.6	76	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.14	747.8	30.29	769.4	29	— 1.7	78	NE	1	0.4	.....	0	2ks	.....	Calm	0	0	Fair	
Denver, Colorado	24.64	625.8	29.86	758.4	12	—11.1	80	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.22	742.2	30.17	766.3	17	— 8.3	83	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Detroit, Michigan	29.46	748.3	30.17	766.3	23	— 5.0	73	W	6	2.7	.....	2k	2s	W	W	0.08	2.0	Fair	
Dodge City, Kansas	27.42	696.5	29.87	758.7	18	— 7.8	84	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.48	748.8	30.24	768.1	15	— 9.4	65	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.42	747.2	30.15	765.8	17	— 8.3	83	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.48	748.8	30.28	769.1	30	— 1.1	79	Calm	0	0	.....	0	0	.....	.....	0.84	21.3	Clear	
Eastport, Maine	29.81	757.2	29.88	758.9	18	— 7.8	68	NW	10	4.5	.....	2c	0	Calm	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	39	3.9	91	NW	.....	.....	1	.....	10s	.....	Calm	1.11	28.2	Cloudy	
El Paso, Texas	26.26	667.0	.....	.....	34	1.1	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.42	747.2	30.16	766.6	24	— 4.4	87	SW	7	3.1	.....	1cs	0	Calm	.....	0.04	1.0	Clear	
Escanaba, Michigan	29.43	747.5	30.14	765.5	9	—12.8	78	SW	2	0.9	.....	0	8s	.....	SW	0.01	0.3	Cloudy	
Florence, Arizona	28 65	727.7	30.25	768.3	33	0.6	70	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	7	—13.9	77	SE	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy	
Fort Craig, New Mexico	25.57	649.5	29.63	752.6	19	— 7.2	24	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.22	640.6	30.18	766.6	26	— 3.3	88	SW	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Fort Gibson, Indian Ter	29.71	754.6	30.29	769.4	22	— 5.6	86	Calm	0	0	.....	0	2ks	.....	SW	0	0	Clear	
Fort Griffin, Texas	28.94	735.1	30.33	770.4	18	— 7.8	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.25	692.1	.....	.....	12	—11.1	61	NW	9	4.0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort McKavett, Texas	27.95	709.9	29.98	761.6	33	0.6	51	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.00	736.6	30.19	766.8	27	— 2.8	88	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.22	716.8	.....	.....	6	—14.4	81	NW	.....	.....	1	.....	8s	.....	Calm	Inap.	Inap.	Cloudy	
Fredericksburg, Texas	28.46	722.9	30.09	764.3	39	3.9	73	Calm	0	0	.....	0	2ks	.....	Calm	Inap.	Inap.	Fair	
Galveston, Texas	30.18	766.6	30.23	767.8	41	5.0	82	N	16	7.2	.....	0	8ks	.....	N	0.25	6.3	Cloudy	
Graham, Texas	29.14	740.1	30.30	769.6	18	— 7.8	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.51	749.5	30.20	767.1	27	— 2.8	76	NW	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.42	747.2	30.25	768.3	29	— 1.7	89	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Indianola, Texas	30.24	768.1	30.27	768.8	39	3.9	73	N	17	7.6	.....	.....	10s	.....	N	0.05	1.3	Cloudy	
Jacksboro, Texas	29.05	737.9	30.27	768.8	25	— 3.9	87	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.09	764.3	56	13.3	87	N	10	4.5	.....	.....	10s	.....	NE	0.46	11.7	Threatening	
Keokuk, Iowa	29.54	750.3	30.20	767.1	28	— 2.2	82	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.07	763.8	30.10	764.5	74	23.3	90	S	5	2.2	.....	5c	Fog	SW	Calm	0	0	Foggy	
Kittyhawk North Carolina	30.14	765.5	30.17	766.3	37	2.8	90	NE	25	11.2	.....	.....	10s	.....	NE	0.35	8.9	Cloudy	
Knoxville, Tennessee	29.20	741.7	30.26	768.6	32	0.0	69	NE	8	3.6	.....	.....	10ks	.....	NE	0.17	4.3	Cloudy	
La Crosse, Wisconsin	29.40	746 7	30.21	767.3	10	—12.2	79	S	4	1.8	.....	8k	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.15	664.2	30.30	769.6	24	— 4.4	87	N	2	0.9	.....	0	0	.....	.....	0	0	Cloudy	
Laredo, Texas	29.86	758.4	30.22	767.6	36	2.2	90	NW	4	1.8	.....	10ck	0	Calm	.....	0.53	13.5	Cloudy	
Leavenworth, Kansas	29.32	744.7	30.23	767.8	24	— 4.4	74	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.76	755.9	30.11	764.8	40 0	4.4	73	NE	4	1.8	.....	Haze	0	Calm	.....	0	0	Clear	
Louisville, Kentucky	29.71	754.6	30.30	769.6	33	0.6	70	NW	2	0.9	.....	8k	Sm'e	Calm	Calm	0.01	0.3	Smoky	
Lynchburg, Virginia	29.52	749.8	30.23	767.8	38	3.3	63	W	4	1.8	.....	0	5s	.....	Calm	0.11	2.8	Fair	
Madison, Wisconsin	29.16	740.7	30.23	767.8	13	—10.6	62	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.34	745.2	30.10	764.5	14	—10.0	64	NW	8	3.6	.....	0	5s	.....	Calm	0.05	1.3	Fair	
Mason, Texas	28.56	725.4	30.41	772.4	33	0.6	89	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Memphis, Tennessee	29.99	761.7	30.33	770.4	32	0.0	79	N	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.42	747.2	30.21	767.3	19	— 7.2	70	NW	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.15	765.8	30.19	766.8	44	6.7	84	N	10	4.5	.....	.....	10s	.....	NE	0.14	3.6	Cloudy	
Montgomery, Alabama	29.95	760.7	30.19	766.8	41	5.0	87	N	6	2.7	.....	.....	10ks	.....	N	0.10	2.5	Threatening	
Morgantown, West Virginia	29.34	740.1	30.25	768.3	32	0.0	69	Calm	0	0	.....	5ck	2s	NW	Calm	0.07	1.8	Cloudy	
Mt. Washington, N. H.	23.28	591.3	29.64	752.8	0	—17.8	100	NW	64	28.6	.....	.....	Fog	.....	NW	0.09	2.3	Foggy	
Nashville, Tennessee	29.76	755.9	30.33	770.4	35	1.7	70	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
New Haven, Connecticut	29.99	761.7	30.12	765.0	26	— 3.3	88	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.04	763.0	30.09	764.8	25	— 3.9	71	NW	3	1.3	.....	1ck	0	NW	.....	0	0	Clear	
New Orleans, Louisiana	30.10	764.5	30.16	766.1	47	8.3	77	NE	10	4.5	.....	5cs	5s	SW	NE	0.30	7.6	Cloudy	
Newport, Rhode Island	30.00	762.0	30.06	763.5	26.6	— 3.1	69	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.98	761.5	30.17	766.3	27	— 2.5	66	Calm	0	0	.....	2cs	Sm'e	Calm	.....	0	0	Dense smoke	
Norfolk, Virginia	30.16	766.1	30.22	767.6	36	2.2	80	NE	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.03	668.6	29.88	758.9	— 1	—18.3	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	29.73	755.1	29.77	756.1	34.0	1.1	90	S	4	1.8	.....	0	5s	.....	S	0.13	3.3	Fair...	
Omaha, Nebraska	28.92	734.6	30.10	764.5	19	— 7.2	76	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.76	755.9	30.10	764.5	32	0.0	79	W	10	4.5	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Pembina, Dakota	29.31	744.5	30.22	767.6	6	—14.4	100	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pa	30.13	765.3	30.18	766.6	30	— 1.1	78	NW	12	5.4	.....	5cs	Sm'e	W	Calm	0.03	0.8	Fair	
Phœnix, Arizona	28.98	736.1	30.59	784.6	34	1.1	79	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.42	442.5	29.64	752.8	— 1	—18.3	37	W	40	17.9	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	23.96	608.6	29.73	755.1	25	— 3.9	62	S	12	5.4	.....	8c	0	W	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.38	746.2	30.25	768.3	23	— 5.0	80	W	4	1.8	.....	5k	0	W	.....	0.07	1.8	Fair	
Port Huron, Michigan	29.44	747.8	30.16	766.1	19	— 7.2	85	SW	9	4.0	.....	0	2ks	.....	Calm	Inap.	Inap.	Clear	
Portland, Maine	29.92	760.0	29.98	761.5	24	— 4.4	74	NW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Portland, Oregon	29.81	757.2	29.91	759.7	37.6	2.8	86	SW	12	5.4	.....	0	7ks	.....	SW	0.17	4.3	Threatening	
Prescott, Arizona	24.72	627.9	30.08	764.0	21	— 6.1	71	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.08	738.6	29.92	760.0	44	6.7	67	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	67	19.4	95	S	11	4.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Red Bluff, California	29.66	753.4	30.03	762.8	44	6.7	84	S	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Rio Grande City, Texas	30.14	765.5	30.37	771.4	40	4.4	82	N	6	2.7	.....	.....	10s	.....	N	0.53	13.5	Cloudy	
Rochester, New York	29.46	748.3	30.11	764.8	26	— 3.3	88	W	9	4.0	.....	5k	0	W	.....	0.01	0.3	Fair	
Roseburg, Oregon	29.41	747.0	29.99	761.7	37.6	2.8	90	W	1	0.4	.....	.....	10n	.....	SW	0.03	0.8	Light rain	
Sacramento, California	29.96	761.0	30.05	763.3	48	6.1	87	SE	6	2.7	.....	8c	0	S	.....	0	0	Cloudy	
St. Louis, Missouri	29.70	754.4	30.31	769.9	29	— 1.7	78	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.09	764.3	30.10	764.5	53	11.7	86	NE	11	4.9	.....	.....	10s	.....	NE	0.16	4.1	Cloudy	
St. Paul, Minnesota	29.27	743.4	30.20	767.1	1	—17.2	72	SW	7	3.1	.....	.....	10s	.....	Calm	Inap.	Inap	Cloudy	
Salt Lake City, Utah	25.00	647.7	29.83	757.7	33	0.6	61	SE	8	3.6	.....	8k	0	W	.....	0	0	Cloudy	
San Antonio, Texas	29.55	750.6	30.17	766.3	36	2.2	90	Calm	0	0	.....	5cs	0	Calm	.....	0.14	3.6	Fair	
San Diego, California	30.08	764.0	30.15	765.8	44	6.7	92	NE	6	2.7	.....	Haze	0	.....	.....	0	0	Hazy	
Sandusky, Ohio	29.51	749.5	30.23	767.8	26	— 3.3	88	SW	11	4.9	.....	0	Haze	.....	Calm	0.01	0.3	Clear	
Sandy Hook, New Jersey	30.12	765.0	30.15	765.8	29	— 1.7	67	NW	18	8.0	.....	5ck	0	W	.....	0	0	Fair	
San Francisco, California	30.01	762.2	30.07	763.8	47	8.3	83	NW	5	2.2	.....	5c;hz	1s	NW;Calm	Calm	0	0	Fair	
Santa Fé, New Mexico	23.16	588.2	29.70	754.4	9	—12.8	57	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.04	763.0	30.13	765.3	52	11.1	93	N	3	1.3	.....	.....	10s	.....	Calm	0.46	11.7	Cloudy	
Shreveport, Louisiana	30.08	764.0	30.31	769.9	37	2.8	90	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	24.25	615.9	30.71	780.0	25	— 3.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.12	765.0	30.16	766.1	47	8.3	85	N	10	4.5	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Springfield, Massachusetts	29.94	760.5	30.08	764.0	27	— 2.8	64	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.66	687.3	30.06	763.5	30	— 1.1	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.94	760.5	30.00	762.0	25	— 3.9	62	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.40	748.3	30.19	766.8	27	— 2.8	76	W	8	3.6	.....	0	2s	.....	Calm	Inap.	Inap.	Clear	
Tucson, Arizona	.....	.....	.....	.....	36	2.2	45	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.09	764.3	30.12	765.0	51	10.6	93	N	7	3.1	.....	.....	10s	.....	Calm	0.51	13.0	Threatening	
Umatilla, Oregon	29.53	750.0	30.04	763.0	34.0	1.1	90	Calm	0	0	.....	0	5s	.....	.....	0.01	0.3	Fair	
Unalashka, Aleutian Islands	.....	.....	.....	.....	37	2.8	80	SE	.....	.....	4	.....	10s	.....	S	0.24	6.1	Cloudy	
Uvalde, Texas	29.35	745.5	30.24	768.1	32	0.0	89	Calm	0	0	.....	0	0	.....	.....	0.38	9.7	Clear	
Vicksburg, Mississippi	30.03	762.8	30.30	769.6	39	3.9	82	NE	5	2.2	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Virginia City, Montana	23.67	608.8	29.45	748.0	20	— 6.7	70	W	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.70	754.4	30.08	764.0	39	3.8	73	SE	5	2.2	.....	Haze	0	Calm	.....	0	0	Hazy	
Washington, D. C.	30.12	765.0	30.24	768.1	31	— 0.6	79	N	6	2.7	.....	2c	2s	NW	NW	0.07	1.8	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.07	763.8	30.15	765.8	46	7.8	85	NE	9	4.0	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Winnemucca, Nevada	25.48	647.2	29.84	757.9	25	— 3.9	75	SW	8	3.6	.....	10c	0	W	.....	0	0	Cloudy	
Wood's Holl, Mass	30.01	762.2	30.05	763.3	25	— 3.9	87	NW	16	7.2	.....	0	2s	.....	Calm	0	0	Clear	
Yankton, Dakota	28.77	730.7	30.19	766.8	6	—14.4	78	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.95	760.7	30.13	765.3	39	3.9	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	28 64	727.4	30.16	766.1	19	— 7.2	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I.	30.04	763.0	30.09	764.3	74	23.3	85	SE	1.2	0.5	.....	8ck	2ks	S	S	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	30.02	762.5	30.10	764.5	80	26.7	.....	NE	10.4	4.6	.....	.....	.....	.....	.....	0	0	Partly clo'dy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.03	762.8	80	26.7	82	E	.....	.....	2	5k	0	E	E	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.10	764.5	30.16	766.1	—34.0	—36.7	.....	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,037.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,660 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.06 inches; Camp Verde, 3.488 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 m.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.00	762.0	46	7.8	45	7.2	76	WSW	0?	0?	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	46	7.8	92	N	5	2.2	.....	.....	10	.....	NE	0.11	2.8	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.00	762.0	67	13.9	19	— 7.2	84	W	2	0.9	.....	.....	8	.....	.....	.....	.....	.....	.....	Pleasant	
Naval Hospital, Yokohama, Japan	30.02‡	762.5‡	.....	.....	41.2	5.1	91	N	.....	.....	1	.....	10n	.....	N	0.36	9.1	.....	.....	Misty	
Adams. S. 7° 45′, W. 80° 51′	29.96	761.0	75	23.9	74	23.3	100	NE	.....	.....	1	.....	5	.....	N;E	.....	.....	Smooth	.....	Fair	
Alaska, N. 18° 20′, W. 103° 29′	30.07	763.8	74	23.3	74	23.3	81	WNW	.....	.....	3	.....	2	.....	S	0	0	Mod'ate	W	D. clouds	
Alliance, Naples, Italy	29.89‡	759.2‡	.....	.....	60	15.6	65	NE	.....	.....	1–2	.....	4	.....	Calm	.....	.....	Smooth	.....	Clear	
Ashuelot, N. 21° 28′, E. 109° 05′	30.16‡	766.1‡	.....	.....	56	13.3	81	NNW	.....	.....	6	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Canonicus, New Orleans, La.	30.09	764.3	40	4.4	46	7.8	92	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	30.10	764.5	27	— 2.8	27	— 2.8	100	WNW	3	1.3	.....	.....	5	.....	W	0	0	.....	.....	Hazy	
Constitution, N 48° 23′, W. 15° 42′	29.43‡	747.5‡	.....	.....	51	10.6	93	W	.....	.....	7	.....	3	.....	WSW	.....	.....	Rough	W	Fair	
Despatch, Constantinople, Turkey	30.05‡	763.3‡	.....	.....	48	8.9	92	NNW	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Cloudy	
Essex, S. 48° 11′, W. 56° 43′	29.18	741.2	57	13.9	53	11.7	100	W	.....	.....	7	.....	10	.....	W	.....	.....	Rough	WNW	Cloudy	
Franklin, Norfolk, Va.	30.34	770.6	67	19.4	38	3.3	72	NE	12	5.4	.....	.....	10	.....	NW	1.	25.	.....	.....	Cloudy	
Gettysburg, Genoa, Italy	29.96‡	761.0‡	.....	.....	58	14.4	94	NNE	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Fair	
Hartford, Montevideo, Uruguay	29.92	760.0	70	21.1	64	17.8	68	S	.....	.....	4	.....	8	.....	S	0.01	0.3	Mod'ate	S	Cloudy	
Lackawana, Panama*	29.68‡	753.9‡	.....	.....	77	25.0	95	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Fair	
Michigan, Erie, Pa.†	30.03	762.8	.....	.....	27	— 2.8	88	W	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China*	30.55‡	776.0‡	.....	.....	33	0.6	89	N	.....	.....	3–5	.....	10	.....	N	.....	.....	.....	.....	Squally	
Monongehela, Yokohama, Japan*	29.96‡	761.0‡	.....	.....	39	3.9	100	N	.....	.....	0–1	.....	10	.....	N	Blank	Blank	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.	30.14	765.5	57	13.9	52	11.1	??	NNW	8	3.6	.....	.....	10	.....	N	0.27	6.9	.....	.....	Overcast	
Onward, Callao, Peru†	29.98	761.5	.....	.....	68	20.0	90	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	30.70	779.8	30	— 1.1	21	— 6.1	86	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Misty	
Passaic, Washington, D. C.	.....	.....	.....	.....	32	0.0	79	N	.....	.....	2	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Pensacola, S. 12° 00′, W. 96° 20′	29.95‡	760.7‡	.....	.....	75	23.9	81	ESE	14	6.3	.....	.....	10	.....	ESE	0	0	Mod'ate	ESE	Cloudy	
Powhatan, San Juan, Porto Rico	30.27	768.8	77	25.0	77	25.0	82	E	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Quinnebaug, Villafranca, France	30.01‡	762.2‡	.....	.....	59	15.0	70	SW	.....	.....	1–2	.....	8	.....	SW	.....	.....	Smooth	.....	Cloudy	
Ranger. Yokohama, Japan*	29.98‡	761.5‡	.....	.....	52	11.1	86	NNE	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Rainy	
Richmond, Gibraltar	30.33‡	770.4‡	.....	.....	63	17.2	73	WNW	.....	.....	2	.....	10	.....	NW	.....	.....	Smooth	.....	Cloudy	
Rio Bravo, Brownsville, Texas	30.16	766.1	54	12.2	40	4.4	91	N	.....	.....	3	.....	10	.....	N	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.18‡	766.6‡	.....	.....	32	0.0	.....	NW	.....	.....	2	.....	8	.....	W	0.05	1.3	.....	.....	Fair	
St. Louis, League Island, Pa	30.05	763.3	55	12.8	28	— 2.2	.....	NW	6	2.7	.....	.....	5	.....	W	0	0	.....	.....	Fair	
Supply, N. 28° 30′, W. 20° 29′	30.27‡	767.8‡	.....	.....	66	18.9	89	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast	
Trenton Villafranca, France *	30.03‡	762.8‡	.....	.....	62	16.7	72	WSW	.....	.....	1–2	.....	8	.....	S;W	0	0	.....	.....	Cloudy	
Tuscarora, Sihuantanejo, Mexico	29.97‡	761.2‡	.....	.....	74	23.3	76	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.16‡	766.1‡	.....	.....	19	— 7.2	84	NW	5	2.2	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wyoming, Smyrna, Turkey	30.11	764.8	68	20.0	66	18.9	100	S	.....	.....	2–3	.....	8	.....	S	.....	.....	.....	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *The error of the barometer is not known. †Aneroid. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 31° 51', W. 119° 24'...†		30.13‡	765.3‡	54	12.2	87	SE			2		10		NW	0	Mod'ate	NNW	Misty.	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			
S. S. Granada N. 19° 12', W. 104° 49'..†*		30.11‡	764.8‡	70	21.1	??	WNW			3		0			0	Short	W	Clear	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia S. 24° 20', W. 175° 47'...*		29.87	758.7				Calm			0				S		Long	SSW	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic N. 49° 53' W. 28° 40'...†*		29.26‡	743.2‡	48	8.9		NW			3		10		W	Heavy	High	W	Squally	Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 40', E. 169° 18'...*		30.12‡	765.0‡	58	14.4	82	W			4		ck		NW		Rough: gross	NW	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 50° 45', E. 0° 37'		29.46	748.3	47.8	8.8		SW			4		10		W		6	SW	Foggy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Liverpool		29.18‡	739.9‡	47	8.3	100	SSW			6		6		SW	0			Cloudy	Captain Sargent.
S. S. Ohio, N. 39° 24', W. 71° 40'.		30.02‡	762.5‡	38	3.3		N			3		2		N	Blank	Mod'ate	SSE	Fair	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. *Instrumental error not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

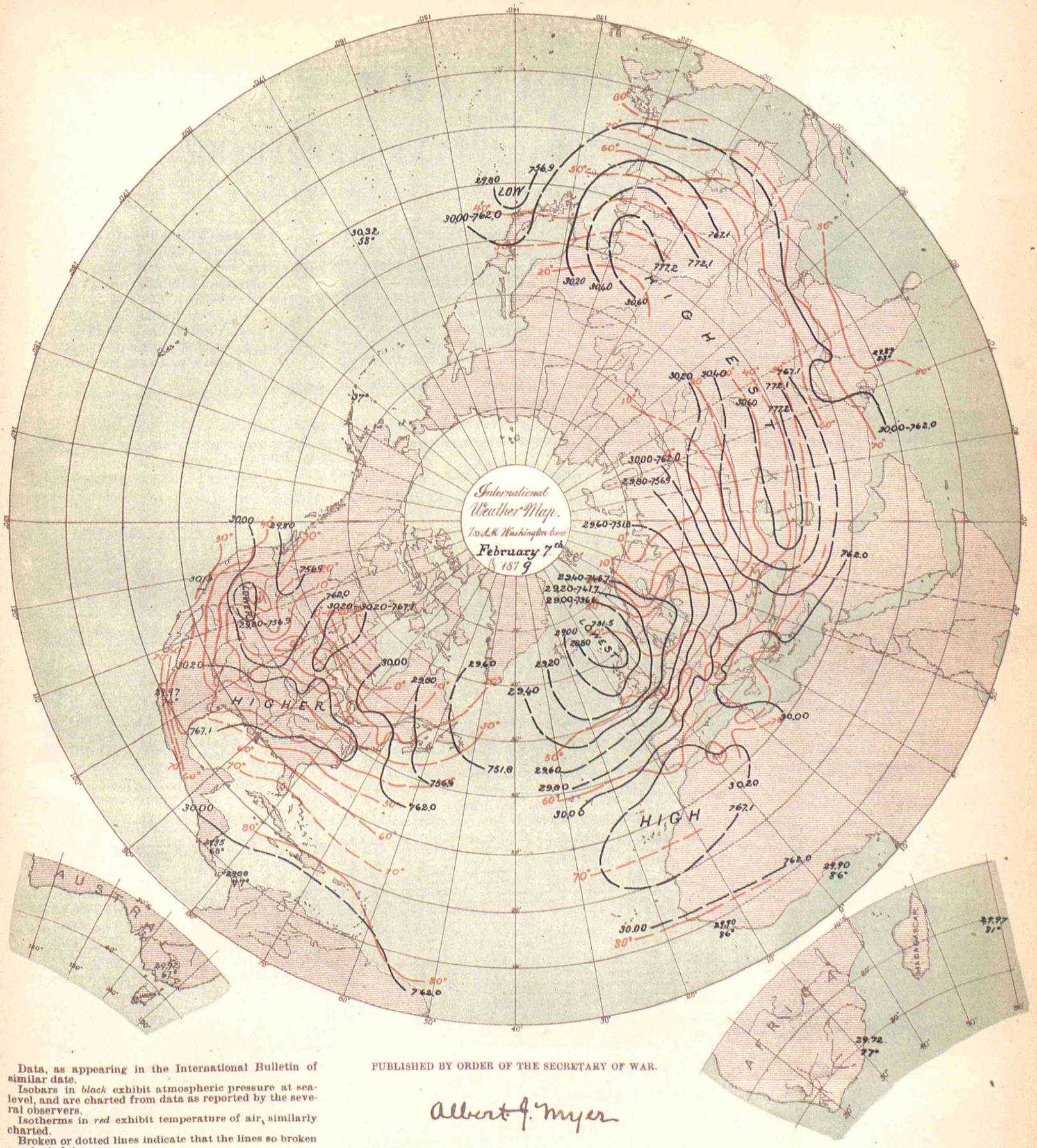
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; 1). clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 8, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.30	769.7	61.2	16.2		SW			1		8			0	0	Very cloudy	
Nemours			30.20	767.0	67.6	19.8	62	Calm			0		2			0	0	Fair	Kesxuche.
Algiers			30.13	765.4	68.0	20.0	47	WNW			3		2			0	0	Fair	Tourillere.
La Calle			30.21	767.2	66.9	19.4	67	WNW			3		5			0	0	Cloudy	Foufrede.
Tunis			30.19	766.8	64.2	17.9	60	W			3		2			0	0	Fair	Jacques.
Sfax			30.28	769.0															Gau.
Saida			30.17	766.4	69.8	21.0	21	S			1		2			0	0	Fair	Herbin.
Tebessa			30.30	769.7	58.1	14.5	48	NW			3		2			0	0	Fair	Watrin.
Geriville			30.30	769.7	61.2	16.2	96	N			4		5			0	0	Cloudy	Brugnlaux.
Laghouat			30.27	768.9	63.7	17.6	44	S			2		0			0	0	Clear	Bertrand.
Biskra			30.27	768.8	68.2	20.1	36	NW			1		2			0	0	Fair	Chanvaux.

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.40	746.7	29.97	761.2	36.5	2.5	94	SW			2		10			0	0	Misty	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.02	737.0	29.80	756.9	39.9	4.4	74	NW			1		10			0.028	0.7		Dr. Wierzbiski
Eperies	29.05	737.8	29.96	761.0	35.2	1.8	90	S			2		10			0	0		Julius Mikolik.
Gratz	28.64	727.5	29.94	760.4	37.2	2.9	76	SE			3		9			0	0		Andreas Rospini.
Hermannstadt	28.55	725.1	30.02	762.5	39.6	4.2	89	S			1		2			0	0		Prof. A. Gottschling.
Kremsmünster	28.55	725.1	29.92	760.0	40.3	4.6	84	SSW			1		10			0	0		Prof. C. Wagner.
Lemberg	28.87	733.2	29.88	759.0	37.6	3.1	54	S			1		2			0	0		Dr. T. Stanecki.
Pola	29.87	758.7	29.98	761.6	50.5	10.3	81	WNW			1		9			0	0		I.R.Hydrographic Office.
Szathmar	29.56	750.8	30.05	763.2	34.3	1.3	98	SE			2		10			0.039	1.0		Julius Csics, S. J.
Szegedin	29.69	754.1	29.98	761.5	39.7	4.3	98	Calm			0		10			0	0		Karl Stancel.
Trieste	29.91	759.7	30.01	762.3	49.5	9.7	86	Calm			0		1			0	0	Almost clear	P. Busin.
Vienna	29.24	742.7	29.99	761.8	32.4	0.2	96	SE			1		10			0	0		I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon																			Prof. M. Passau.
Brussels																			Royal Observatory
Furnes																			M. E. de Cae.
Maeseyck																			M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:8, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:0 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.04	737.6	29.14	740.1	41.7	5.4	.....	SSW	12	5.4	.....	.....	3	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	29.15	740.4	29.17	740.9	43	6.1	.....	SW	.....	.....	4	.....	7	.....	.....	.....	.....	Showery	William McNeil.
Armagh, Observatory	.....	.....	29.30	744.2	43.4	6.3	.....	SW	17	7.6	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.33	745.0	45.0	7.2	.....	SW	20	8.9	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton, (Sharples)	.....	.....	29.31	744.5	42.9	6 1	.....	S	12	5.4	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	28.94	735.1	29.33	745.0	45 4	7.4	.....	SW	.....	.....	2	.....	10	.....	.....	0.23	5.8	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	80	26.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	29.49	749.0	50.0	10.0	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. Todd. [O.
Cardington	.....	.....	29.52	749.8	50.0	10.0	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.45	748.0	29.58	751.3	50.2	10.1	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Corpl. Daly, R. E.
Dartmoor	28.10	713.7	29.57	751.1	44.6	7.0	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	29.25	742.9	29.29	744.0	44	6.7	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.59	751.6	29.61	752.1	46	7.8	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Falmouth, Observatory	29.38	746.2	29.61	752.1	50.9	10.5	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.69	703.3	30.01	762.2	67.6	19.8	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. S. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.65	753.1	29.88	758.9	86	30.0	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.31	744.5	48	8.9	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.10	764.5	30.16	766.1	68.2	20.1	.....	W	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.98	736.1	29.18	741.2	39.9	4.4	.....	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean.
Great Yarmouth	29.46	748.3	29.47	748.5	48	8.9	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.39	746.5	29.56	750.8	51.2	10.7	.....	WSW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy
Guernsey	29.47	748.5	29.70	754.4	51	10.6	.....	SSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.54	750.3	29.66	753.4	51	10.6	.....	SW	.....	.....	4	.....	8k	.....	.....	0.12	3.0	Fair	M. P. Moyle.
Holyhead	29.33	745.0	29.38	746.2	46	7.8	.....	SW	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.44	747.8	29.74	755.4	50.3	10.2	.....	SW	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	29.53	750.0	29.57	751.1	51.0	10.6	.....	SW	21	9.4	.....	.....	6	.....	.....	.....	.....	Raining	The Meteorological Of.
Leicester, Museum	29.18	741.2	29.43	747.5	49.8	9.9	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.02	762.5	30.10	764.5	62	16.7	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Naira	28.98	736.1	29.08	738.6	41	5.0	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.06	763.5	72.0	22.2	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.21	741.9	29.40	746.7	50.0	10.0	.....	SSW	.....	.....	4	.....	5c	.....	SSW	0.108	2.74	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.91	734.3	29.43	747.5	48.9	9.4	.....	SW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.53	750.0	49	9.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.53	750.0	29.60	751.8	50.7	10.4	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.37	746.0	29.41	747.0	48	8.9	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.30	744.2	29.46	748.3	47	8.3	.....	SW	.....	.....	4	.....	4	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.05	737.9	40.8	4.9	.....	S	16	7.2	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.98	761.5	46.6	8.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	W. H. Lyne.
Sheffield	29.11	739.4	29.43	747.5	49.9	9.9	.....	SW	.....	.....	1	.....	6	.....	.....	0.55	14.0	D. clouds	W. F. Cooper.
Silloth Rectory	29.25	742.9	29.28	743.7	43.5	6.4	91	SW	.....	.....	1	.....	10	.....	.....	0.660	16.76	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	28.94	735.1	29.34	745.2	42.4	5.8	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing	Rev. S. J. Perry.
Stratfield Turgiss	29.36	745.7	29.57	751.1	51.2	10.7	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Squally	C.H. Griffith, F.M.S.
Thurso	29.00	736.6	29.06	738.1	40	4.4	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.60	751.8	53	11.7	.....	SW	.....	.....	7	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.37	746.0	29.40	746.7	47.6	8.7	.....	NW	4	1.8	.....	.....	8	.....	.....	.....	.....	Misty	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.20	741.7	43.3	6.3	.....	W	.....	.....	3	.....	8k	.....	.....	0.02	0.5	Cloudy	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.96	761.0	81.3	27.4	69	E	13.0	5.8	.....	4	3	S	E	0.08	2.0	Cloudy	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.15	765.8	62.1	16.7	71	SSE	10	4.5	.....	.....	6	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.07	738.4	46	7.8	.....	WSW	.....	.....	7	5	10	WSW	.....	Blank	Blank	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	28.88	733.5	42	5.6	.....	SW	.....	.....	4	0	0	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series: 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from-	Observer
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
H. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	67.1	19.5	77	SE	.....	.....	2	.....	1ks	.....	.....	0	0	Fair	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS																			
Copenhagen	29.20	741.7	29.25	742.9	37.8	3.2	97	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	.....
Faröe	29.17	741.0	29.19	741.5	34.5	1.4	100	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	.....
Godthaab, (Greenland)	29.41	747.0	29.45	748.1	11.1	—11.6	75	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	28.72	729.4	28.75	730.3	42.4	5.8	75	SW	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	29.01	736.9	29.18	741.2	34.5	1.4	100	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS																			
Alençon, Normal School	29.30	744.3	29.35	758.3	50.4	10.2	95	SW	.....	.....	3	.....	8	.....	W	0.539	13.7	Very cloudy	Collignon, Director.
Amiens, Normal School	29.61	752.2	29.72	755.0	51.4	10.8	80	SW	.....	.....	5	.....	5	.....	E	0.142	3.6	Cloudy	Bonvallet, Director.
Avignon, Normal School	30.01	762.3	30.09	764.3	54.5	12.5	74	NNE	.....	.....	1	.....	3	.....	.....	0.12	3.	Light clouds	M. Giraud, Director.
Bar-sur-Seine	29.32	744.7	29.89	759.2	51.4	10.8	77	SW	.....	.....	4	.....	8	.....	W	0.079	2.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.51	749.6	29.80	756.8	51.1	10.6	70	SW	.....	.....	3	.....	8	.....	W	0.266	6.75	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	29.09	738.9	29.98	761.6	53.4	11.9	66	SW	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.17	741.0	30.08	764.1	54.5	12.5	70	S	.....	.....	1	.....	cn	S	S	0.12	3.	.....	M. Mariot, Director.
Bourges, Normal School	29.36	745.7	29.91	759.7	53.6	12	78	WSW	.....	.....	6	.....	5	WSW	WSW	0	0	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.47	748.5	29.71	754.7	52.9	11.6	86	SW	.....	.....	4	.....	9	.....	SW	0.266	6.75	Foggy	M.de Kermaree, Director
Carcassonne, Normal School	29.68	753.9	30.10	764.4	59.7	15.4	66	NNE	.....	.....	1	.....	5	W	NW	0.004	0.1	Cloudy	September, Director.
Caen, Normal School	29.63	752.6	29.71	754.5	54.3	12.4	74	W	.....	.....	3	.....	1	.....	NE	0.031	0.8	Clear	M. Lair, Director.
Chartres, Normal School	29.22	742.2	29.78	756.5	53.2	11.8	93	W	.....	.....	3	.....	7	.....	E	0 472	12.0	Cloudy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.64	750.3	29.85	758.3	53.6	12.0	87	W	.....	.....	3	.....	10	WSW	WSW	0.209	5.3	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.4	29.98	761.6	55.4	13.0	59	SW	.....	.....	1	.....	5	SW	.....	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	28.96	735.5	29.84	758.0	47.5	8.6	81	SW	.....	.....	3	.....	5k	.....	SW	0.295	7.5	Cloudy	Dr. Coulet, Director
Commune de Grèasque*	28.93	734.8	30.07	763.8	56.7	13.7	64	NW	.....	.....	3	.....	5	.....	SW	0	0	Cloudy	M. Kina, Director.
Grenoble, Normal School	29.27	743.5	30.04	763.1	53.2	11.8	78	W	.....	.....	1	.....	5cs	.....	W	0.169	4.30	Cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.74	755.4	29.96	761.0	54.3	12.4	99	WSW	.....	.....	5	.....	8	.....	WSW	0.178	4.4	Very cloudy	Mouillot, Director
Le Mans, Normal School	29.56	750.8	29.87	758.6	51.3	10.7	97	WSW	.....	.....	3	.....	8	.....	W	0.264	6.7	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.09	738.8	30.00	762.0	54.5	12.5	43	SW	.....	.....	6	.....	5	.....	S	0.056	1.40	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.74	755.5	29.84	758.0	54.0	12.2	90	SW	.....	.....	5	.....	.....	.....	SW	0.189	4.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	d. Galzin, Director
Mirecourt, Normal School	28.63	727.2	29.69	754.0	48.7	9.3	81	SW	.....	.....	1	.....	kn	.....	NE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.87	758.6	30.08	764.1	59.4	15.2	64	W	.....	.....	1	.....	5	.....	W	0.12	3.	Cloudy	Boyer, Director.
Privas, Normal School	29.02	737.0	30.09	764.2	54.7	12.6	70	NW	.....	.....	1	.....	cs	NW	NW	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	25 07	636.7	.....	.....	33.1	0.6	100	W	.....	.....	7	.....	Fog	.....	.....	0	0	Dense fog	Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.8	29.98	761.6	56.1	13.4	86	W	.....	.....	3	.....	5	W	W	0	0	½ covered	Lt. Decante, Director.
Rouen, Normal School	29.69	754.0	29.77	756.2	53.1	11.7	59	SSW	.....	.....	2	.....	5	.....	W	0.169	4.3	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.73	755.1	29.76	755.8	55.0	12.8	81	SW	.....	.....	4	.....	2	SW	SW	0.652	16.56	Slightly cl'dy	Lt. Hercouet, Director
Saint Maur, (near Paris)	29.66	753.4	29.83	757.6	53.2	11.8	87	WSW	.....	.....	3	.....	7	.....	W	0.106	2.7	.....	E. Renou, Director.
Tarbes, Normal School	29.61	736.8	30.11	764.7	48.2	9	61	W	.....	.....	1	.....	5	SW	W	0	0	Cloudy	T. Huguet, Director.
Versailles Observatory	29.40	746.8	29.90	759.4	54.0	12.2	.....	W	.....	.....	3	.....	5	.....	.....	0.091	2.29	Cloudy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.31	744.5	30.02	762.6	58.1	14.5	67	SSE	.....	.....	2	.....	8	.....	S	0.118	8.0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.01	762.2	30.04	762.9	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.26	7.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.02	762.5	58.5	14.7	48	S	.....	.....	2	.....	7	.....	.....	0.146	3.7	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.87	631.6	30.18	766.6	46.0	7.8	73	SW	.....	.....	7	.....	4	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	29.99	761.7	55.8	13.2	70	SE	.....	.....	3	.....	5	.....	.....	0	0	Slightly cl'dy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.54	750.2	.....	.....	54.3	12.4	64	WSW	.....	.....	4	.....	5	.....	WSW	0.110	2.8	.....	Marié Davy, Director.
Perpignan	29.98	761.6	30.09	764.3	59.4	15.2	68	Calm	0	0	.....	.....	1	.....	NE	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Boylac.
Pic du Midi, (Plantade,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gen'l de Nansouty.
Toulouse, Observatory	22.50	571.6	.....	.....	40.3	4.6	.....	W	.....	.....	1	.....	5	.....	.....	0.106	2.7	Snowing	M. Mercadier Juller.
Tours	29.39	746.5	30.11	764.9	55.8	13.2	81	SE	.....	.....	1	.....	7	.....	.....	0.020	0.5	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	29.69	754.2	29.89	759.2	55.4	13.0	72	SW	.....	.....	3	.....	5	.....	W	0.120	3.2	.....	.....
.....	30.55	776.9	30.67	776.5	30.4	— 0.9	75	N	7.8	3.5	.....	.....	10	.....	.....	0	0	Covered	...ne Deschevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.6 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.88	733.5	29.71	754.7	46.0	7.8	83	W	.....	.....	8	.....	6	SW	.....	0.134	3.4	Raining	Prof. Dr. Hoh.
Berlin	29.38	746.3	29.56	750.7	43.3	6.3	83	SW	.....	.....	4	.....	8	.....	.....	0.102	2.6	....	Prof. Arndt.
Breslau	29.18	741.2	29.71	754.6	41.2	5.1	81	SSW	.....	.....	4	.....	9	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.38	746.2	29.81	757.1	47.5	8.6	88	W	.....	.....	2	.....	10	SW	.....	0.177	4.5	Raining	Albert Sens.
Cassel	29.06	738.0	29.66	753.3	43.7	6.5	85	SW	.....	.....	3	.....	8	SW	.....	0.056	1.42	Raining	Dr. H. Möhl.
Crefeld	29.46	748.3	29.62	752.4	48.7	9.3	79	SW	.....	.....	6	.....	7	.....	.....	0.28	7.	.....	Director Lose.
Emden	.....	.....	.....	.....	41.5	5.3	84	W	.....	.....	3	.....	10	.....	.....	0.28	7.	.....	Prof. Prestel.
Frankfort on the Main	29.36	745.8	29.69	754.2	48.9	9.4	.....	SW	.....	.....	3	.....	7	.....	.....	0.055	1.4	.....	Physical Society.
Friedrichshafen	28.47	723.2	29.85	758.3	48.9	9.4	70	WSW	.....	.....	7	.....	8	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.36	745.7	29.43	747.5	41.9	5.5	89	WSW	.....	.....	5	.....	10n	.....	.....	0.110	2.8	Squally	Captain F. Hegemann.
Kiel	29.33	745.0	29.35	745.4	39.9	4.4	90	WSW	.....	.....	6	.....	10	.....	.....	0.244	6.21	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.48	748.7	29.56	750.8	36.7	2.6	87	SE	.....	.....	4	.....	10	.....	.....	0.043	1.1	.....	Prof. E. Luther.
Köslin	.....	.....	29.41	747.0	38.5	3.6	.....	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.24	742.7	29.67	753.5	43.7	6.5	80	SW	.....	.....	3	.....	9	WSW	.....	0	0	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.48	748.9	29.53	750.1	34.3	1.3	92	S	.....	.....	4	.....	10n	.....	.....	.....	.....	Raining	Skalweit.
Neufahrwasser	29.50	749.2	29.51	749.6	37.6	3.1	88	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.36	745.6	29.65	753.1	41.0	5.0	85	W	.....	.....	5	.....	10	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.30	744.1	29.85	758.2	49.3	9.6	79	W	.....	.....	4	.....	10	SW	.....	0.173	4.40	Raining	Imp. University Observatory.
Stuttgart	28.84	732.5	29.76	755.8	48.2	9.0	71	W	.....	.....	5	.....	8	W	.....	0.260	6.6	Raining	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.29	718.6	29.80	757.0	47.7	8.7	73	WSW	16	7	.....	.....	7ck	.....	W	0.102	2.6	.....	Dr. Van Bebber.
Wustrow, Naval School	29.33	745.0	29.36	745.6	38.1	3.4	95	SW	.....	.....	6	.....	10cs	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.8	29.95	760.7	59.5	15.3	.....	NE	.....	.....	1.5	.....	.....	.....	.....	.....	.....	⅛ Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.92	759.9	29.97	761.2	71.0	21.7	34	WSW	5	2.2	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.44	747.6	29.91	759.8	77.7	25.4	27	WNW	9.8	4.4	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.88	758.9	29.92	759.8	77.0	25.0	62	NW	20	8.9	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.92	700.2	29.91	759.8	83.0	28.3	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.20	741.6	29.97	761.2	63.6	17.6	34	Calm	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky	
Belgaum	27.38	695.5	29.90	759.6	80.4	26.9	45	W	3	1.3	.....	.....	1	.....	.....	0	0	D. clouds	
Roorkee	29.01	736.9	29.94	760.5	64.8	18.2	26	Calm	1	0.4	.....	.....	3	.....	.....	0	0	D. clouds	
Agra	29.42	747.3	30.00	762.0	70.7	21.5	37	N	.....	.....	.....	.....	8	.....	N	0	0	.....	
Nagpur	28.82	731.9	29.85	758.3	83.1	28.4	28	Calm	3.4	1.5	.....	.....	.....	.....	.....	0	0	Blue sky	
Lucknow	29.60	751.9	29.98	761.5	74.8	23.6	40	NNW	1.0	0.4	.....	.....	.....	.....	.....	0	0	Blue sky	
Allahabad	29.65	753.1	29.97	761.2	68.0	20.0	42	Calm	0.8	0.4	.....	.....	6	W	.....	0	0	D. clouds	
Patna	29.76	755.8	29.94	760.5	71.3	21.8	71	NW	0.7	0.3	.....	.....	6	NW	NW	0	0	D. clouds	
Hazaribagh	27.89	708.4	29.94	760.3	70.8	21.6	26	WNW	2.6	1.2	.....	.....	3	.....	.....	0	0	.....	
Cuttack	29.82	757.5	29.91	759.6	81.0	27.2	37	S	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.90	759.4	29.92	760.0	74.8	23.8	72	SSW	1.0	0.4	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.50	749.3	29.90	759.4	71.0	21.7	39	W	4.6	2.1	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.86	758.5	29.96	761.0	71.6	22.0	85	Calm	3.2	1.4	.....	.....	0	.....	.....	0	0	.....	
Sibsagar	29.62	752.3	29.97	761.2	62.9	17.2	86	ENE	1.6	0.7	.....	.....	6	.....	.....	0.10	2.5	D. clouds	
Jubbulpore	28.54	724.9	29.91	759.8	77.7	25.4	28	NNE	2.8	1.2	.....	.....	0	.....	.....	0	0	D. clouds	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.56	750.7	29.98	761.4	49.8	9.9	81	SW	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.86	758.5	29.97	761.3	45.9	7.7	83	W	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.43	747.5	29.07	761.1	48.7	9.3	76	W	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.05	737.9	29.98	761.6	49.3	9.6	66	NW	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.03	711.9	29.98	761.4	46.4	8.0	75	N	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.80	757.0	30.00	761.9	55.2	12.9	76	SE	3.8	1.7	.....	.....	8	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.79	756.7	30.06	763.4	48.7	9.3	92	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.93	760.3	30.02	762.5	54.9	12.7	82	SSW	7.4	3.3	.....	.....	10	S	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.95	760.7	30.00	761.9	50.7	10.4	78	NE	6.9	3.1	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.91	759 6	30.08	764.1	56.8	13.8	70	W	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. P S. Ferrari.
Lecce	29.80	756.9	30.06	763.4	55.0	12.8	75	E	24.8	11.1	.....	.....	2	.....	.....	0.039	1.0	.....	Prof. C. De Giorgi.
Cagliari	29.91	759.7	30.10	764.6	60.1	15.6	76	W	.....	.....	4	.....	9	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	741.0	30.07	763.8	57.6	14.2	76	NW	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.87	758.8	30.13	765.4	57.6	14.2	68	WNW	8.7	3.9	.....	.....	2	NW	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.01	762.2	30.08	764.0	58.3	14.6	71	NW	6.8	2.8	.....	.....	5	NE	.....	0.008	0.2	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.52	749.9	30.08	764.0	57.7	14.3	88	WSW	0	0	.....	.....	5	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.32	770.1	30.34	770.6	33.0	0.6	66	N	3.6	1.6	.....	.....	6ck	N	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.11	764.8	30.32	770.1	34.5	1.4	75	NE	2.4	1 1	.....	.....	3ck	NNE	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.00	762.0	30.07	764.8	32.4	0.2	53	N	16.1	7.2	.....	2cs	1ck	.....	SW	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.13	638.2	30.41	772.5	35.6	2.0	55	Calm	.....	.....	0	1cs	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.51	622.7	30.23	767.9	46.0	7.8	71	S	.....	.....	1	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.12	587.3	30.33	770.3	43.8	6.3	58	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	39.2	4.0	60	NNE	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.21	767.4	30.22	767.7	64	17.8	88	N	.....	.....	3	5	5	NE	NW	0.028	0.7	Misty	M. M. Cházaro.
San Luis Potosi	24.32	617.7	30.41	772 3	42.0	5.6	80	NNW	.....	.....	.....	.....	10	.....	.....	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.22	767.7	30.25	768.4	67.1	19.5	81	NW	3.8	1.7	.....	.....	10nk	.....	.....	Inap.	Inap	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.45	595.5	30.20	767.0	41.0	5.0	89	N	0	0	.....	0	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.7	30.09	764.4	70.5	21 4	70	NE	.....	.....	2	0	8	.....	.....	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	30.08	764 2	30.21	767.5	66.2	19	.....	NW	.....	.....	3	6n	4n	.....	.....	0	0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental errors of the barometers are not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.52	749.7	29.52	749.7	44.4	6.9	.....	S	.....	.....	.....	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	29.43	747.4	29.48	748.8	42.4	5.8	.....	W	.....	.....	5	.....	.....	.....	.....	0.165	4.2	.....	
Helder	29.46	748.3	29.46	748.3	40.6	4.8	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.287	7.3	.....	
Hellevoetsluis	29.55	750.5	29.55	750.5	42.4	5.8	92	WSW	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.52	749.8	29.57	751.0	45.9	7.7	86	SW	.....	.....	4	.....	5	.....	.....	0.130	3.3	Cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.02	737.2	29.08	738.6	37.8	3.2	93	S	4.3	1.9	.....	.....	10	.....	.....	0.047	1.2	Foggy	
Brönö	29.24	742.6	29.28	743.6	23.0	— 5.0	64	SE	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	28.95	735.3	29.10	739.1	35.1	1.7	91	NNE	7	3	.....	.....	10	.....	.....	0.713	18.1	Rain & snow	
Tromsö	29.62	752.4	29.67	753.5	13.3	—10.4	67	SE	7	3	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.38	746.3	29.58	751.2	58.6	14.8	89	WNW	9.8	4.4	.....	.....	8	.....	.....	0.197	5.0	.....	Dr. J. A. Sampaio.
Campo Major	29.16	740.7	30.20	767.0	55.4	13.0	75	SSW	6.3	2.8	.....	.....	10	SW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.10	764.5	30.19	766.7	63.7	17.6	74	W	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.81	757.1	30.17	766.3	55.9	13.3	93	SSW	16.1	7.2	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.62	752.3	29.69	754.1	63.3	17.4	84	SW	31.1	13.9	.....	.....	3	.....	.....	0.868	21.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd'
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.87	758.7	83.8	28.8	.....	WSW	.....	.....	2	.....	3	WSW	.....	1	.....	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. da Silva Costa. Porto de Bulema. N. 11° 29', W. 15° 36'	.....	.....	29.94	760.4	81.3	27.4	.....	ENE	.....	.....	3	.....	0	.....	.....	3	NE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.84	757.9	81.9	27.7	.....	N	.....	.....	2	.....	9	.....	.....	1	.....	Overcast	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.30	769.5	61.2	16 2	.....	N	.....	.....	4	.....	3	.....	N	1	N	D. clouds	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.28	743.7	29.71	754.7	38.3	3.5	77	S	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.27	743.5	29.70	754.3	40.1	4.5	79.	S	7	3	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.37	745.9	29.61	752 2	36.1	2.3	93	SSW	7	3	.....	.....	10n	.....	.....	.....	.....	Light rain	Prof. Dr. Weihrauch.
St. Petersburg	29.64	752.9	29.66	753.3	33.6	0.2	92	SSE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.35	745.4	30.01	762.3	31.1	— 0.5	100	SW	9	4	.....	.....	10n;ks	.....	.....	.....	.....	Foggy	Physical Cabinet.
Nikolaiev	30.05	763.2	30.12	765.0	36.0	2.2	89	SSE	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.06	763.4	30.08	763.9	46.2	7.9	83	ENE	4	2	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.28	743.8	29.85	758.1	35.1	1.7	98	SW	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.86	758.5	30.08	763.9	32.2	0.1	79	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.89	759.1	29.91	759.6	—16.2	--26.2	70	NNE	4	2	.....	.....	2ks	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	29.89	733.7	30.36	771.1	41.2	5.1	75	Calm	0	0	.....	.....	8cs	.....	.....	.....	.....	Light clouds	Physical Observatory
Astrakhan	30.37	771.4	30.29	769.3	36.0	2.2	85	SE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.52	749.7	30.02	762.5	24.4	— 4.2	82	S	13	6	.....	.....	10	.....	.....	.....	.....	Light snow.	Cand. Fatjanow.
Kasan	29.62	752.3	29.90	759.5	23.2	— 4.9	87	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.88	733.5	29.92	759.9	13.1	—10.5	66	WSW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tashkend	29.03	737 4	30.57	784.2	29.1	— 1.6	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.01	762.2	30.57	776.4	3.7	—15.7	85	SW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.91	759.7	30.23	767.7	17.6	— 8.0	82	W	9	4	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.37	771.5	30.52	775.1	25.3	— 3.7	36	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.98	761.6	30.09	764.3	56.1	13.4	60	SE	0.7	0.33	.....	.....	2	.....	.....	0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.57	758.6	29.92	760.0	65.5	18.6	62	S	3.3	1.49	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.0	.....	.....	50.5	10.3	91	SW	17.4	7.78	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez.
Madrid, Royal Observatory	27.95	709.9	.....	.....	51.1	10.6	86	SW	13.4	6.00	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	30.01	762 3	30.16	766.1	68.0	20.0	62	E	2.6	1.17	.....	.....	4	.....	.....	0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.03	737.4	29.98	760.2	54.5	12.5	95	S	21.7	9.7	.....	.....	10	.....	.....	0.630	16.0	Raining	R. Gil Villanueva, Dir
Sub-Series.																			
Havana, Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.88	759.0	29.98	760 3	80.6	27.0	70	ENE	0	0	.....	.....	6ck	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.7	30.25	768.2	60.6	15.9	81	NW	2.4	1.1	.....	4	5	WSW	N	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.02	762.4	30.11	764.7	75.6	24.2	95	S	4.9	2.21	.....	3k	3k	SW	SW	0.256	6.5	D. clouds	Leonardo de Tejeda, Ch'f. Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:30 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'per. 0—10.	Low'r. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.75	755.7	29.79	756.7	4.6	—15.2	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Umea	29.53	750.0	29.58	751.3	6.1	—14.4	100	NE	.....	.....	4	.....	10	.....	.....	0.150	3.8	Snowing	
Hernosand	29.40	746.7	29.45	748 0	10.8	—11.8	93	NE	.....	.....	6	.....	10	.....	.....	0.118	3.0	Snowing	
Stockholm	29.06	738.1	29.24	742.6	34.9	1.6	94	S	.....	.....	2	.....	10	.....	.....	0.035	0.9	.....	
Wisby	29.26	743.3	29.32	744.8	37.0	2.8	93	SW	.....	.....	7	.....	10	.....	.....	0.071	1.8	.....	
Sub-Series.																			
Upsala	29.14	740.1	29.21	742.0	33.8	1.0	96	S	8.1	3.6	.....	.....	10	.....	.....	0.300	7.62	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.9	30.00	761.9	56.8	13.8	51	S	.....	.....	4	.....	4	.....	.....	0.051	1.3	Cloudy	The Observatory.
Zurich	28.30	718.9	29.96	761.1	47.5	8.6	76	SW	.....	.....	2	.....	10	.....	.....	0.031	0.8	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.8 mm.; Thermometer, +10.9 cent.; Relative Humidity, —28 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.4	45.5	7.5	88	NE	12	5.5	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.03	762.8	59.2	15.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.87	758.7	29.98	761.6	70.2	21.2	69	N	.....	.....	1	.....	8ck	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.92	760.0	29.99	761.7	12.1	—11.1	72	Calm	0	0	.....	0	8k	.....	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	30.04	763.0	30.37	771.4	12	—11.1	.....	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	W. R. Biga.
*Chatham, N B	29.93	760.2	30.00	762.0	16	—12.2	90	SW	3	1.3	.....	2k	8ks	SW	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.88	758.9	29.92	760.0	15	— 9.4	95	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.12	765.0	30.38	770.4	15.6	— 9.4	81	W	.....	.....	1	.....	9s	.....	.....	0.05	1.3	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	30.04	763.0	30.06	763.5	—12	—11.1	43	W	30	13.4	.....	5k	2s	NW	NW	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.05	763.3	30.12	765.0	— 2.8	—19.3	100	NW	1	0.4	.....	cs	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.53	750.0	30.47	773.9	— 4	—20.0	100	NW	10	4.5	.....	0	Haze	.....	.....	0	0	Hazy	James Stewart.
Granton, Ontario	29.22	742.2	30.45	773.4	5	—15.0	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.86	758.2	29.99	761.7	15	— 9.4	86	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	30.04	763.0	30.45	773.4	19.3	— 7.1	84	SW	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.97	761.2	30.34	770.6	18	— 7.8	89	N	2	0.9	.....	8ck	0	W	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	NW	10	4.5	.....	5k	0	NW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nasou.
*Montreal, Quebec	30.10	764.5	30.32	770.1	15	— 9.4	69	W	15	6.7	.....	0	2ks	.....	.....	0.01	0.3	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.64	752 8	30.43	772.9	1	—17.2	59	NE	3	1.3	.....	0	0	.....	.....	0.03	0.8	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.49	749.0	30.30	769.6	20.4	— 6.4	82	Calm	.....	.....	.....	0	8ks	.....	.....	0	0	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.68	753.9	30.44	773.2	16	— 8.9	98	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.82	757.4	29.88	758.9	17.7	— 7.9	.....	NW	7	3.1	.....	.....	.....	.....	.....	0	0	Fair	Peter Grant.
Port Stanley, Ontario	29.72	754.9	30.45	773.4	4	—15 6	100	W	5	2.2	.....	0	2s	.....	W	0	0	Clear	M. Payne.
*Quebec, Quebec	29.87	758.7	30.23	767.8	11	—11.7	80	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.86	758.4	30.36	771.1	11	—11.7	80	Calm	0	0	.....	.....	10s	.....	SW	0.10	2.5	Fair	W. H. McIntyre.
St. Andrews, N. B	30.18	766.6	30.23	767.8	14	—10.0	53	N	7	3.1	.....	0	0	.....	.....	0.15	3.8	Clear	Dr. Gove.
St. John, N. B	29.92	760.0	30.10	764.5	13	—10.6	81	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.02	762.3	30.30	771.9	20	— 6.7	96	SE	5	2.2	.....	.....	8ks	.....	.....	0.17	4.3	Cloudy	K. Stewart.
Stayner, Ontario	29.57	751.1	30.41	772.4	21	— 6.1	97	Calm	0	0	.....	.....	10n	.....	NW	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	29.03	737.3	30.45	773.4	8.1	—13.3	93	Calm	0	0	.....	1c	4ks	.....	Calm	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.78	756.4	29.82	757.4	20	— 6.7	76	NW	10	4.5	.....	.....	10n	.....	NW	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario	30.01	762.2	30.42	772.6	21	— 6.1	85	NW	8	1.3	.....	.....	10ks	.....	NW	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.92	760.0	30.02	762.5	15.5	— 9.2	91	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	25.0	— 3.9	100	N	.....	.....	.....	10	10	.....	.....	0	0	Fair?	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3,

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	30.11	764.8	30.36	771.1	22	— 5.6	79	NW	3	1.3	.....	8cs	0	NW	.....	0	0	Fair	
Alpena, Michigan	29.68	753.9	30.41	772.4	5	—15.0	75	Calm	0	0	.....	0	2s	.....	Calm	Inap.	Inap.	Clear	
Atlanta, Georgia	29.10	739.1	30.30	769.6	36	2.2	80	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.45	773.4	30.47	773 9	24	— 4.4	61	N	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Augusta, Georgia	30.14	765.5	30.33	770.4	42	5.6	66	NE	5	2.2	.....	9k	1s	NW	Calm	0.01	0.3	Cloudy	
Baltimore, Maryland	30.42	772.6	30.47	773.9	26	— 3.3	75	Calm	0	0	.....	5c	Fog	Calm	Calm	0	0	Foggy	
Barnegat, New Jersey	30.40	772.1	30.42	772.6	26	— 3.3	75	N	14	6.3	.....	8c	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.41	721.6	30.27	768.8	7	—13.9	88	NW	16	7.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Boerne, Texas	28.81	731.8	30.22	767.6	29	— 1.7	78	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.12	688.8	30.08	764.0	41	5.0	64	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	30.15	765.8	30.32	770.1	21	— 6.1	71	W	9	4.0	.....	1k	0	Calm	.....	0	0	Clear	
Brackettville, Texas	29.13	739.9	30.21	767.3	40	4.4	91	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	29.16	740.7	30.26	768.6	8	—13.3	89	NW	5	2.2	.....	5ck	0	W	.....	Inap.	Inap.	Fair	
Brownsville, Texas	30.28	769.1	30.36	771.1	41	5.0	91	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.67	753.6	30.44	773.2	16	— 8.9	83	SW	5	2.2	.....	2ck	5s	NW	NW	Inap.	Inap.	Fair	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	32	S	.....	.....	1	5c	0	E	.....	0	0	Fair	
Burlington, Vermont	30.05	763.3	30.37	771.4	18.5	— 7.5	76	NW	4	1.8	.....	0	8s	.....	NW	0	0	Fair	
Cairo, Illinois	30.02	762.5	30.44	773.2	33	0.6	79	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.32	643.1	30.12	765.0	38	3.3	45	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	20	— 6.7	41	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp o, California	27.57	700.3	30.14	765.5	32	0.0	79	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.38	771.6	30.39	771.9	40	4.4	65	NE	17	7.6	.....	10cs	0	SW	.....	Inap	Inap.	Cloudy	
Cape Henry, Virginia	30.37	771.4	30.39	771.9	35	1.7	70	N	1	0.4	.....	8cs	0	W	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.32	770.1	30.34	770.6	39	3.9	64	NE	30	13.4	.....	.....	10ks	.....	W	0.05	1.3	Cloudy	
Cape May, New Jersey	30.43	772.9	30.46	773.7	29	— 1.7	67	N	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Castroville, Texas	29.50	749.3	30.27	768.8	33	0.6	89	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.24	768.1	30.31	769.9	42	5.6	83	NE	10	4.5	.....	.....	10n	.....	Calm	0.26	6.6	Light rain	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	28	— 2.2	77	SE	5	2.2	.....	0	8s	.....	SE	0	0	Cloudy	
Chicago, Illinois	29.57	751.1	30.30	769.6	33	0.6	70	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.76	755.9	30.46	773.7	31	— 0.6	79	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cleveland, Ohio	29.66	753 4	30.46	773 7	17	— 8.3	67	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.43	722.1	30.19	766.8	34	1.1	90	Calm	0	0	.....	0	8s	.....	W	0	0	Fair	
Columbus, Ohio	29.64	750.3	30.45	773.4	27	— 2.8	77	SW	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Corpus Christi, Texas	28.28	718.3	30.04	763.0	35	1.7	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.85	757.7	30.34	770.4	34	1.1	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.58	751 3	30.25	768.3	30	— 1.1	78	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.48	647.2	.....	.....	7	—13.9	77	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.06	738.1	30.30	769.6	34	1.1	90	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.50	749.3	30.34	770.6	34	1.1	76	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	23	— 5.0	73	S	4	1.8	.....	8ck	0	W	.....	0	0	Fair	
Des Moines, Iowa	29.22	742.2	30.14	765.5	29	— 1.7	78	SW	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.68	753.9	30.41	772.4	20	— 6.7	85	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Dodge City, Kansas	27.57	700.3	30.00	762.0	26	— 3.3	88	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Dubuque, Iowa	29.48	748.8	30.21	767.3	30	— 1.1	78	SW	5	2.2	.....	10k	10n	Fog	SW	S	0	Cloudy	
Duluth, Minnesota	29.14	747.8	30.17	766.3	18	— 7.8	92	NE	5	2.2	.....	.....	0	.....	.....	NE	0.04	1.0	Light snow
Eagle Pass, Texas	29.51	749.5	30.30	769.6	37	2.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.04	763.0	30.11	764.8	18	— 7.8	68	NW	8	3.6	.....	8k	0	W	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	32	0.0	100	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	26.41	670.8	.....	.....	30	— 1.1	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.63	753.9	30.45	773.4	19	— 7.2	85	SE	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Escanaba, Michigan	29.58	751.3	30.30	769.6	10	—12.2	68	N	3	1.3	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Florence, Arizona	28.69	728.7	30.29	769.4	37	2.8	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.30	718.8	.....	.....	— 7	—21.7	59	NW	.....	.....	2	0	0	.....	.....	0.06	1.5	Clear	
Fort Craig, New Mexico	25.68	652.3	29.75	755.6	25	— 3.9	38	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.34	643.6	30.30	769.6	42	5.6	42	Calm	0	0	.....	2c	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.75	755.6	30.32	770.1	33	0.6	61	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Graham, Texas	28.90	734.0	30.27	768 8	27	— 2.8	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.82	706.6	.....	.....	1	—17.2	100	NW	5	2.2	.....	2c	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	28.07	713.0	30.07	763.8	43	6.1	59	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.96	735.6	30.13	765.3	33	0.6	79	SE	8	3.6	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.45	722.6	.....	.....	3	—16.1	83	NW	.....	.....	4	8cs	0	NW	.....	0.06	1.3	Cloudy	
Fredericksburg, Texas	28.50	723.9	30.10	764.5	52	11.1	54	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Galveston, Texas	30.30	769.6	30.35	770.9	47	8.3	85	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	29.11	739.4	30.22	767.6	34	1.1	79	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.63	752.6	30.33	770.4	18	— 7.8	68	E	7	3.1	.....	2ck	2s	NW	Calm	0	0	Fair	
Indianapolis, Indiana	29.55	750.6	30.38	771.6	28	— 2.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.31	769.9	30.34	770.6	44	6.7	84	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.04	737.6	30.23	767.8	35	1.7	70	S	8	3.6	.....	5c	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.15	765.8	30.18	766.6	49	9.4	93	NE	10	4.5	.....	.....	10n	.....	NE	0.85	21.6	Heavy rain	
Keokuk, Iowa	29.61	752.1	30.26	768.6	32	0.0	69	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.07	763.8	30.11	764.8	74	28.3	90	Calm	0	0	.....	5k	Fog	SW	Calm	0	0	Foggy	
Kittyhawk North Carolina	30.38	771.6	30.41	772.4	38	3.3	63	NE	22	9.8	.....	10cs	0	W	.....	0	0	Cloudy	
Knoxville, Tennessee	29.31	744.5	30.39	771.9	30.5	— 0.8	89	NE	2	0.9	.....	Haze	2s	SW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.34	745.2	30.11	764.8	28	— 2.2	77	S	8	3.6	.....	10k	0	W	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.25	666.7	30.40	772.1	28	— 2.2	88	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	
Laredo, Texas	29.88	758.9	30.25	768.3	34	1.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.36	745.7	30.26	768.6	29	— 1.7	78	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.85	758.2	30.20	767.1	46.0	7.8	77	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.81	757 2	30.41	772.4	29	— 1.7	67	E	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.73	755 1	30.46	773.7	30	— 1.1	79	W	1	0.4	.....	0	5ks	.....	Calm	0	0	Fair	
Madison, Wisconsin	29.15	740.4	30.18	766.6	28	— 1.7	78	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Marquette, Michigan	29.50	749.3	30.26	768.6	17	— 8.3	67	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mason, Texas	28.59	726.2	30.45	773.4	33	0.6	100	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.05	763.3	30.39	771.9	32	0.0	79	N	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.48	748.8	30.25	768.3	33	0.6	89	SE	7	3.1	.....	5ck	5s	S	Calm	0	0	Cloudy	
Mobile, Alabama	30.26	768.6	30.30	769.6	39	3.9	82	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Montgomery, Alabama	30.04	763.0	30.29	769.4	43	6.1	91	N	3	1.3	.....	.....	10ks	.....	N	0.01	0.3	Cloudy	
Morgantown, West Virginia	29.33	745.0	30.46	773.7	32	0.0	69	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Mt. Washington, N. H.	28.42	594 9	29.78	756.4	— 2	—18.9	100	NW	72	32.2	.....	.....	Fog	.....	NW	0.82	20.8	Foggy	
Nashville, Tennessee	29.82	757.4	30.39	771.9	29	— 1.7	78	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
New Haven, Connecticut	30.28	769.1	30.41	772.4	22	— 5.6	86	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.34	770.6	30.40	772.1	22	— 5.6	72	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.24	768.1	30 30	769.6	46	7.8	69	N	6	2.7	.....	0	Fog	.....	Calm	0	0	Clear	
Newport, Rhode Island	30.28	769.1	30.33	770.4	27	— 2.8	64	W	18	8.0	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.26	768.6	30.46	773.7	25	— 3.9	63	NW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.38	771.6	30.45	773.4	32	0.0	79	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.27	692.6	30.10	764.5	9	—12.8	78	NW	6	2.7		0	0			0	0	Clear	
Olympia, Washington Ter.	29.52	749.8	29.56	750.8	34.1	1.2	90	Calm	0	0			10n		Calm	0.02	0.5	Light snow.	
Omaha, Nebraska	28.96	735.6	30.12	765.0	26	— 3.3	75	W	9	4.0		0	0			0	0	Clear	
Oswego, New York	30.06	763.5	30.40	772.1	30	— 1.1	78	NW	7	3.1		8c	0	NW		Inap.	Inap.	Fair	
Pembina, Dakota	29.17	748.5	30.41	772.4	— 1	—18.3	100	NW	10	4.5			10n		Calm	0.08	2.0	Light snow.	
Philadelphia, Pa	30.40	772.1	30.45	773.4	27	— 2.8	76	NW	8	3.6		0	8me; fg		Calm	0	0	Clear	
Phœnix, Arizona	29.04	737.6	30.04	785.9	40	4.4	73	SW			1	0	0			0	0	Clear	
Pike's Peak, Colorado	17.62	447.5	29.83	757.7	— 1	—18.3	37	NW	3	1.3		8cs	0	W		0	0	Cloudy	
Pioche, Nevada	24.10	612.1	29.87	758.7	21	— 6.1	71	S	4	1.8		8c	0	W		0	0	Fair	
Pittsburg, Pennsylvania	29.60	751.8	30.49	774.4	20	— 6.7	85	NW	2	0.9			Fog		Calm	0	0	Foggy	
Port Huron, Michigan	29.67	753.6	30.40	772.1	14	—10.0	82	SW	5	2.2		0	0			0	0	Clear	
Portland, Maine	30.15	765.8	30.21	767.3	25	— 3.9	75	W	11	4.9		1k	Haze	Calm		0	0	Clear	
Portland, Oregon	29.59	751.6	29.69	754.1	38.6	3.6	91	SW	2	0.9			10n		S	0.54	13.7	Light rain	
Prescott, Arizona	24.84	630.9	30.20	767.1	25	— 3.9	75	S	2	0.9		0	0			0	0	Clear	
Pilot Point, Texas	29.13	739.9	29.97	761.2	49	9.4	71	SE	14	6.3		8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.08	764.0	30.10	764.5	68	20.0	83	SW	8	3.6			10n		SW	0.38	9.7	Light rain	
Red Bluff, California	29.67	753.6	30.04	763.0	48	8.9	70	SE	23	10.3			10ks		S	0	0	Cloudy	
Rio Grande City, Texas	30.16	766.1	30.39	771.9	37	2.8	90	N	2	0.9		0	Fog			0	0	Light fog	
Rochester, New York	29.76	755.9	30.42	772.6	23	— 5.0	73	W	10	4.5		5k	0	W		0	0	Fair	
Roseburg, Oregon	29.11	739.4	29.66	753.4	49.0	9.4	47	SE	6	2.7			10s		Calm	0.07	1.8	Cloudy	
Sacramento, California	30.01	762.2	30.09	764.3	44	6.7	80	SE	7	3.1		10cir'z	0	Calm		0	0	Cloudy	
St. Louis, Missouri	29.76	755.9	30.37	771.4	33	0.6	79	S	9	4.0		0	0			0	0	Clear	
St. Marks, Florida	30.17	766.3	30.19	766.8	50	10.0	100	N	8	3.6			10n		N	0.66	16.8	Light rain	
St. Paul, Minnesota	29.19	741.4	30.08	764.0	18	— 7.8	83	N	7	3.1		0	10ks		W	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.70	652.8	30.03	762.8	34	1.1	52	SE	8	3.6		4k	0	W		0	0	Fair	
San Antonio, Texas	29.61	752.1	30.24	768.1	35	1.7	90	Calm	0	0		0	0			0	0	Clear	
San Diego, California	30.14	765.5	30.22	767.6	48	8.9	92	NE	6	2.7			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.72	754.9	30.44	773.2	25	— 3.9	87	SW	8	3.6		8k	0	W		0	0	Fair	
Sandy Hook, New Jersey	30.40	772.1	30.43	772.9	27	— 2.8	76	NW	23	10.3		1c	0	Calm		0	0	Clear	
San Francisco, California	30.01	762.2	30.08	764.0	51	10.6	75	S	4	1.8			10s		Calm	Inap.	Inap.	Cloudy	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	19	— 7.2	54	N	3	1.3		0	0			0	0	Clear	
Savannah, Georgia	30.17	766.3	30.27	768.8	42	5.6	91	NE	11	1.8			10n		NE	0.43	10.9	Light rain	
Shreveport, Louisiana	30.13	765.3	30.37	771.4	33	0.6	89	Calm	0	0			Fog		Calm	0	0	Foggy	
Silver City, New Mexico	24.40	619.8	30.83	783.1	30	— 1.1	79	SW	3	1.3		0	0			0	0	Clear	
Smithville, North Carolina	30.29	769.4	30.32	770.1	39	3.9	73	E	13	5.8			10s		W	0.06	1.5	Cloudy	
Springfield, Massachusetts	30.23	767.8	30.37	771.4	27	— 2.8	64	W	4	1.8		0	0			0	0	Clear	
Stockton, Texas	27.12	688.8	30.12	765.0	38	3.3	81	SW	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	30.26	768.6	30.32	770.1	28	— 5.0	60	W	20	8.9		0	0			0	0	Clear	
Toledo, Ohio	29.67	753.6	30.40	772.1	27	— 2.8	88	S	2	0.9		5c	0	NW		0	0	Fair	
Tucson, Arizona					30	3.9	55	S	1	0.4		0	0			0	0	Clear	
Tybee Island, Georgia	30.22	767.6	30.26	768.6	44	6.7	100	E	24	10.7			10n		E	0.68	17.3	Heavy rain	
Umatilla, Oregon	29.42	747.2	29.92	760.0	36.0	2.2	80	SE	6	2.7			10s		SE	0	0	Cloudy	
Unalashka, Aleutian Islands					35	1.7	80	SE			4		10s		SE	0.13	3.3	Cloudy	
Uvalde, Texas	29.40	746.7	30.28	769.1	35	1.7	90	Calm	0	0		5cs	0	Calm		0	0	Fair	
Vicksburg, Mississippi	30.11	764.8	30.38	771.6	37	2.8	81	NE	5	1.0		0	0			0	0	Clear	
Virginia City, Montana	23.99	609.3	29.47	748.5	5	—15.0	75	Calm	0	0			10s		Calm	0.09	2.3	Cloudy	
Visalia, California	29.78	756.4	30.16	766.1	43	6.1	71	SE	4	1.8			10s		Calm	0	0	Cloudy	
Washington, D. C.	30.34	770.6	30.47	773.9	25	— 3.9	81	Calm	0	0		5c	Fog			0	0	Fair	
Wickenburg, Arizona					35	1.7	80	N			1		10s		NW	0	0	Cloudy	
Wilmington, N. Carolina	30.24	768.1	30.32	770.1	37	2.8	54	NE	11	4.9			10s		Calm	0.04	1.0	Cloudy	
Winnemucca, Nevada	25.57	649.5	29.93	760.2	33	0.6	79	SE	2	0.9			10s		Calm	0	0	Cloudy	
Wood's Holl, Mass	30.26	768.6	30.30	769.6	25	— 3.9	87	NW	28	12.5		0	0			0	0	Clear	
Yankton, Dakota	28.9.	734.3	30.33	770.4	14.7	— 9.7	73	W	12	5.4		0	0			0	0	Clear	
Yuma, Arizona	30.03	762.8	30.21	767.3	42	5.6	83	NE	4	1.8		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.70	729.0	30.20	767.1	29	— 1.7	78												J. B. Gordon.
Havana, Cuba, W. I	30.05	763.3	30.10	764.5	77	25.0	76	Calm	0	0		8c	0	S		0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	30.00	762.0	30.08	764.0	79	26.1		NE	8.8	3.9						0	0	Cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.10	764.5	30.10	764.5	80	26.8	82	Calm			2	5c	6cs	E		0	0	⅛ clouded	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.12	765.0	30.18	766.6	—37.5	—38.6		NW	15	6.7		1c	2s	NW	NW	0	0	Fair	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, Ark., 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.8 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,037.9 ft., or 313.3 m.; Medellin 4,676 ft., or 1,450.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,060 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,276 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.33 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.03	762.8	49	9.4	48	8.9	70	SE	6	2.7	.....	.....	10	.....	SE	0	0	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	46	7.8	85	NW	2	0.9	.....	.....	2	.....	S	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.32	770.1	52	11.1	22	— 5.6	86	W	2	0.9	.....	.....	8	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.02‡	762.5‡	.....	.....	34.5	1.4	71	N	.....	.....	5		7ck;k	.....	W	0.04	1.0	.....	.....	Fair.....	
Adams, S. 5° 20', W. 82° 08'.....	30.00	762.0	76	24.4	74	23.3	95	Calm	.....	.....	0		5	.....	.....	.....	.....	Smooth	.....	Fair.....	
Alaska, N. 19° 35', W. 105° 18'.....	30.10	764.5	71	21.7	66	18.9	84	N	.....	.....	1	.....	0	.....	.....	0	0	Mod'ate	W	Hazy.....	
Alliance, Naples, Italy.....	30.06‡	763.5‡	.....	.....	59	15.0	65	NW	.....	.....	3	.....	5	.....	N;W	.....	.....	Smooth	.....	Pleasant.....	
Arhuelot, N. 21° 01', E. 109° 03'.....	30.23‡	767.8‡	.....	.....	56	13.3	75	N	.....	.....	4	.....	10	.....	SW	.....	.....	Smooth	.....	Cloudy.....	
Canonicus, New Orleans, La.....	30.23	767.8	39	3.9	44	6.7	100	N	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	30.37	771.4	26	— 3.3	25	— 3.9	100	NW	17	7.6	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Constitution, N 49° 00', W. 16° 01'.....	29.24	742.7	.....	.....	53	11.7	??	SSE	.....	.....	4	.....	10	.....	Calm	.....	.....	Long	wsw	Misty.....	
Despatch, Constantinople, Turkey	30.08‡	764.0‡	.....	.....	47	8.3	92	N	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Essex, S. 46° 14', W. 56° 59'.....	29.58	751.3	59	15.0	56	13 3	100	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va.....	30.58	776.7	70	21.1	34	1.1	79	NNW	5	2.2	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.92‡	760.0‡	.....	.....	58	14.4	94	E	.....	.....	2	.....	10	.....	.....	Blank	Blank	.....	.....	Overcast.....	
Hartford, Montevideo, Uruguay...	29.99	761.7	67	19.4	68	20.0	60	NW	.....	.....	3	.....	2	.....	NW	0	0	Smooth	.....	Fair.....	
Lackawana, Panama.....*...	29.72‡	754 9‡	.....	.....	78	25.6	91	WNW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Michigan, Erie, Pa.....†	30.13	765.3	.....	.....	28	— 2.2	88	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Monocacy, Shanghai, China.....*	30.60‡	777.5‡	.....	.....	32	0.0	89	NNW	.....	.....	2	.....	10	.....	NNW	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*..	29.99‡	761.7‡	.....	.....	30	— 1.1	100	NNW	.....	.....	6	.....	7	.....	N	0	0	.....	.....	Squally.....	
New Hampshire, Port Royal, S. C.....	30.21	767.3	44	6.7	45	7.2	??	NE	22	9.8	.....	.....	8	.....	wsw	0.02	0.5	.....	.....	Drizzling.....	
Onward, Callao, Peru..... .....†	30.02	762.5	.....	.....	69	20.6	86	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China.....	30.57	776 5	36	1.7	23	— 5.0	86	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	29	— 1.7	78	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, S. 13° 40', W. 97° 00'.....	29.97‡	761.2‡	.....	.....	74	23.3	86	ESE	14	6.3	.....	.....	10	.....	ESE	0	0	Long	ESE	Cloudy.....	
Powhatan, San Juan, Porto Rico.....	30.22	767.6	77	25.0	76	24.4	82	SE	.....	.....	2	.....	2	....	.....	.....	.....	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.97‡	761.2‡	.....	.....	58	14.4	70	ESE	.....	.....	1-2	.....	2	.....	ESE	.....	.....	.....	.....	Clear.....	
Ranger, Yokohama, Japan.....*...	30.03‡	762.8‡	.....	.....	37	2.8	89	NNW	.....	.....	5	.....	2	.....	N	.....	.....	Mod'ate	.....	Clear.....	
Richmond, Gibraltar.....	30.23‡	767.8‡	.....	.....	70	21.1	61	E	.....	.....	0-1	.....	2	.....	NW	.....	.....	.....	.....	Fair.....	
Rio Bravo, Brownsville, Texas.....	30.22	767.6	50	10.0	42	5.6	91	W	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Santee, Annapolis, Md...	30.40‡	772.1‡	.....	.....	29	— 1.7	.....	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Fair.....	
St. Louis, League Island, Pa.....	30.28	769.1	47	8.3	24	— 4.4	.....	WSW	1	0.4	.....	.....	8	.....	W	0	0	.....	.....	Fair.....	
Supply, N. 27° 58', W. 21° 09'.....	30.24‡	768.1‡	.....	.....	71	21.7	85	SSE	.....	.....	0-1	.....	5	.....	SSE	.....	.....	Smooth	.....	Fair.....	
Trenton Villafranca, France *...	29.99‡	761.7‡	.....	.....	64	17.8	83	ESE	.....	.....	1	.....	5	.....	S;E	0	0	.....	.....	Fair.....	
Tuscarora, N. 17° 45', W. 108° 15'.. ...	29.95‡	760.7‡	.....	.....	73	22.8	76	NE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.32‡	770.1‡	.....	.....	21	— 6.1	71	NW	11	4.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wyoming, Smyrna, Turkey.....	30.11	764.8	67	19.4	58	14.4	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 28° 29′, W. 110° 14′...†		30.18‡	766.6‡	68	14.4	94	SE			3		5		E	0	Small	WNW	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada N. 21° 30′, W. 108° 06′..†*		30.22‡	767.6‡	68	20.0	??	NW			6		0			0	Rough	NW	Hazy	Capt. Austin
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 20° 26′, W. 173° 11′...*		29.58	758.9				Calm			0				S		Long	SSW	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is no known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			
S. S. Britannic, N. 51° 01′ W. 19° 58′...†*		29.21‡	741.9‡	45	7.2		SE			6		2		SE	Heavy	Mod'ate	SE	Squally	Capt. H. Perry.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 37′, E. 164° 56′...*		30.06‡	763.5‡	64	17.8	68	SSE			5		ks		S		Mod'ate	S	D. clouds	J. A. Thompson, 2d Off't
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 57′, W. 3° 53′		29.71	754.6	55.6	13.3		W			4		5		W		5	W	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

AMERICAN S. S. CO. MARINE SERIES.

Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.

S. S. Indiana, N. 51° 08', W. 15° 52'...*		29.31‡	744.5‡	48	8.9	??	NNW			6		6		W	Blank	Mod'ate	W	Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 40° 21', W. 65° 14'...†		30.11‡	764.8‡	38	3.3	100	NNW			4		8		WNW	0	Mod'ate	NW	Fine	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 55° 01', E. 11° 32'		29.28‡	743.7‡	43	6.1		W			6		3k		W	Blank	Mod'ate short	W;NW	D. clouds	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

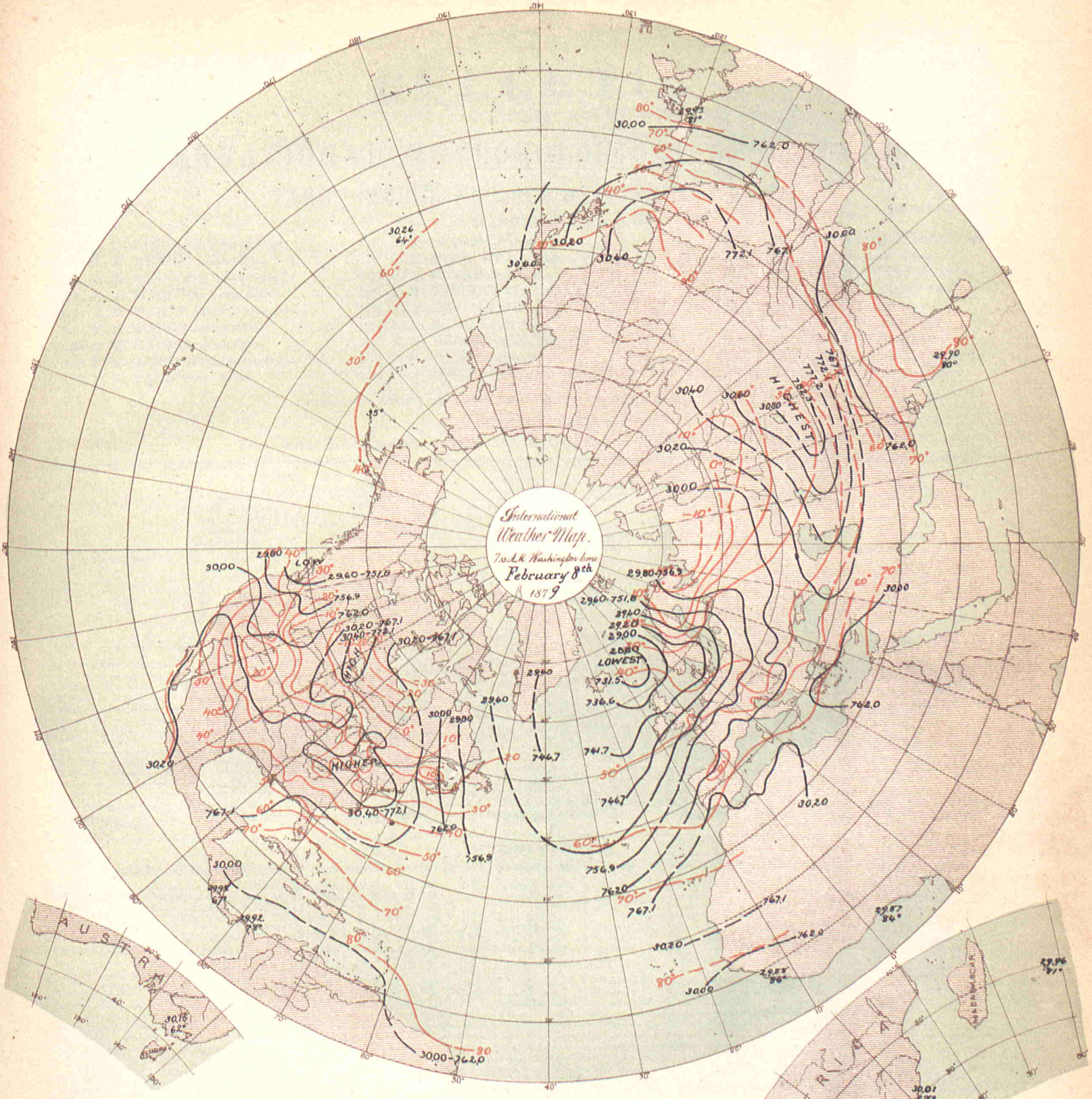
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 9, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.26	768.5	62.8	17.1	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	
Nemours	.....	.....	30.13	765.3	65.5	18.6	63	WNW	.....	.....	1	.....	10	.....	.....	0	0	Covered.....	Kesxuche.
Algiers	.....	.....	30.06	763.5	63.7	17.6	80	WSW	.....	.....	2	.....	2	.....	.....	0	0	Fair.....	Tourillere.
La Calle	.....	.....	30.14	765.6	69.3	20.7	68	NNE	.....	.....	1	.....	5	.....	.....	0	0	Cloudy.....	Foufrede.
Tunis	.....	.....	30.20	767.0	64.6	18.1	71	E	.....	.....	3	.....	2	.....	.....	0	0	Fair.....	Jacques.
Sfax	.....	.....	30.28	769.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.15	765.8	72.5	22.5	14	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	30.27	768.8	68.0	20.0	39	W	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Watrin.
Geriville	.....	.....	30.31	769.6	65.5	18.6	98	W	.....	.....	4	.....	0	.....	.....	0	0	Clear.....	Brugniaux.
Laghouat	.....	.....	30.27	768.9	69.1	20.6	34	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	30.20	768.5	70.2	21.2	41	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.48	748.8	30.05	763.3	39.7	4.3	90	SW	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.11	739.4	29.89	759.1	46.0	7.8	69	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.10	739.2	30.02	762.4	34.9	1.6	90	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.70	729.0	29.08	761.6	41.4	5.2	84	SW	.....	.....	1	.....	6	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.68	728.9	30.04	762.9	44.6	7.0	87	NW	.....	.....	1	.....	6	.....	.....	0.079	2.00	.....	Prof. A. Gottschling.
Kremsmünster	28.62	724.5	29.88	759.0	44.6	7.0	82	SSW	.....	.....	2	.....	8	.....	.....	0.094	2.4	.....	Prof. O. Wagner.
Lemberg	28.90	734.1	29.92	759.9	39.4	4.1	87	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.07	761.2	30.08	764.1	52.5	11.4	86	ESE	.....	.....	3	.....	10	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.63	752.7	30.12	765.0	33.6	0.9	98	SE	.....	.....	1	.....	10	.....	.....	0.008	0.2	Light fog....	Julius Csics, S. J.
Szegedin	29.79	756.7	30.08	764.1	37.0	2.8	100	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	30.02	762.4	30.12	765.0	52.3	11.3	79	Calm	.....	.....	0	.....	10	.....	.....	0.169	4.3	Raining.....	P. Busin.
Vienna	29.20	741.7	29.94	760.5	37.4	3.0	81	S	.....	.....	1	.....	10	.....	.....	0	0	.....	I.R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.16	740.7	29.26	743.2	38.9	3.8	.....	NE	6	2.7	.....	.....	2	.....	.....	0.030	0.76	Blue sky.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William McNeil.
Armagh, Observatory	.....	.....	29.13	739.9	40.9	4.9	.....	NE	6	2.7	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.14	740.1	50.5	10.3	.....	SW	26	11.6	.....	.....	7	.....	.....	.....	.....	D. clouds.....	John Hartnup.
Bolton, (Sharples)	.....	.....	29.14	740.1	47.9	8.8	.....	S	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.42	10.7	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	80	26.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A H.
Cambridge, Observatory	.....	.....	29.31	744.5	56.0	13.3	.....	SSW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd. [C.
Cardington	.....	.....	29.31	744.5	54.0	12.2	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E.	29.26	743.2	29.40	746.7	51.1	10.6	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Daly, R. E.
Dartmoor	27.90	708.6	29.36	745.7	45.0	7.2	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Rain & fog...	Alexander Watt.
Donaghadee	29.08	738.6	29.12	739.6	40	4.4	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.40	746.7	29.42	747.2	46	7.8	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Rain & fog...	J. Costello.
Falmouth, Observatory	29.04	737.6	29.27	743.4	49.8	9.9	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Rain. & fog ..	The Staff.
Fort Napier, (Natal)	27.60	701.0	29.92	760.0	70.0	21.1	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.65	753.1	29.88	758.9	87	30.6	.....	W	.....	.....	.....	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.01	736.8	48	8.9	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.11	764.8	30.16	766 1	67.7	19.8	.....	W	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.93	734.8	29.14	740 1	36.8	2.7	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	D. G. Maclean.
Great Yarmouth	29.30	744.2	29.31	744.5	53	11.7	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.19	741.4	29.36	745.7	52.6	11.4	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Nearly overcast.	The Staff, for G. B. Airy
Guernsey	29.21	741.9	29.43	747.5	50	10.0	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	Dr. S. E. Hoskins, F.R.S
Helston	29.24	742.7	29.36	745.7	52	11.1	.....	S	.....	.....	3	.....	10n	.....	.....	0.40	10.2	Raining.....	M. P. Moyle.
Holyhead	29.09	738.9	29.14	740.1	46	7.8	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.18	741.2	29.47	748.5	48.5	9.2	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	J. Fisher.
Kew, Observatory	29.33	745.0	29.36	745.7	52.5	11.4	.....	SW	23	10.3	.....	.....	10	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	28.99	736.3	29.24	742.7	53.8	12.1	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.06	763.5	30.14	765.5	62	16.7	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky.....	Sergt. H. J. Beckert, A. H. C.
Nairn	29.14	740.1	29.24	742.7	34	1.1	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¼ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.09	764.3	67.0	19.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	C. S. Duncombe.
Nottingham, Observatory	29.05	737.9	29.24	742.7	53.2	11.8	.....	SSW	.....	.....	4	.....	8k;d	.....	SW	0.470	11.94	Overcast....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.71	729.2	29.22	742.2	53.2	11.8	.....	SSW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.33	745.0	52	11.1	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	H. E. Bellamy.
Plymouth	29.24	742.7	29.32	744.7	48.7	9.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	John Merrifield.
Roche's Point	29.06	738.1	29.10	739.1	49	9.4	.....	SSW	.....	.....	4	.....	5	.....	.....	.....	.....	Showery.....	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.28	743.7	40	4.4	.....	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.97	761.2	44.2	6.8	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	W. H. Lyne.
Sheffield	28.92	734.6	29.20	741.7	52.7	11.5	.....	SW	.....	.....	5	.....	9	.....	.....	0.05	1.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.02	737.1	29.05	737.9	41.4	5.2	95	SE	.....	.....	2	.....	10	.....	.....	0.395	10.04	Overcast....	Francis Redford, A. M.
Stonyhurst, Observatory	28.75	730.2	29.10	740.7	48.8	9.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	Rev. S. J. Perry.
Strathfield Turgiss	29.16	740.7	29.37	746.0	52.0	11.1	.....	SW	.....	.....	2-3	.....	10	.....	.....	.....	.....	Raining	C.H.Griffith, F.M.S.
Thurso	29.20	741.7	29.26	743.2	42	5.6	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.21	741.9	53	11.7	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	28.98	736.1	29.01	736.8	51.5	10.8	.....	SE	24	10.7	.....	.....	10	.....	.....	.....	.....	Gloomy	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.20	741.7	37.0	2.8	.....	E	.....	.....	2	.....	10n	.....	.....	0.08	2.0	Raining.....	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.94	760.6	81.0	27.2	64	E	17.0	7.6	.....	2	4	.....	E	0.43	10.92	Squally.....	C. Meldrum.
Melbourne, Observatory	29.96	761.0	30.05	763.3	63.0	17.2	80	WNW	6	2.7	.....	.....	0	.....	.....	0	0	Very fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.20	741.7	41	5.0	.....	E	.....	.....	4	3	3	E	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.25	742.9	42	5.6	.....	S	.....	.....	1	7	2	SW	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	65.8	18.8	60	SE	.....	.....	1	1ck	4s	.....	NE	0	0	Cloudy	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.36	745.6	29.40	746.8	36.1	2.3	98	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Rain and fog	
Fanöe	29.22	742.1	29.24	742.6	34.7	1.5	100	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Godthaab, (Greenland)	29.42	747.2	29.46	748.3	7.0	—13.9	83	NNE	.....	.....	4–5	.....	0	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Farõe)	29.15	740.3	29.18	741.2	39.9	4.4	76	SW	.....	.....	2	.....	6	.....	.....	.....	.....	.....	
Vestervig	29.10	739.0	29.26	743.3	35.6	2.0	96	SE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.07	738.3	29.62	752.3	51.8	11.	97	SW	.....	.....	1	.....	10	.....	.....	0.110	2.8	Covered	Collignon, Director.
Amiens, Normal School	29.49	749.0	29.60	751.8	52.9	11.6	93	SSW	.....	.....	5	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.89	759.3	29.97	761.3	59.0	15.	63	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.15	740.4	29.71	754.6	57.4	14.1	75	S	.....	.....	1	.....	10	.....	.....	0.118	3.0	Covered	O. Saillard, Director.
Beauvais, Normal School	29.32	744.6	29.60	751.8	54.1	12.3	83	SSW	.....	.....	2	.....	10	.....	SW	0.089	2.25	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.92	734.5	29.79	756.7	59.0	15.	62	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.02	737.0	29.93	760.1	58.5	14.7	57	S	.....	.....	4	.....	on	W	W	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.15	740.5	29.70	754.3	56.8	13.8	84	WSW	.....	.....	4	.....	5	SW	WSW	0	0	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.09	738.8	29.33	745.0	52.2	11.2	93	SW	.....	.....	6	.....	10	.....	SW	0.217	5.50	Raining	M.de Rermaree, Director
Carcassonne, Normal School	29.58	751.4	30.00	762.0	54.7	12.6	74	E	.....	.....	1	.....	5	W	NW	0	0	Cloudy	September, Director.
Caen, Normal School	29.43	747.5	29.50	749.4	57.0	13.9	78	S	.....	.....	2	.....	5	.....	NE	0.024	0.6	Cloudy	M. Lair, Director.
Chartres, Normal School	29.05	737.9	29.61	752.2	51.6	10.9	90	S	.....	.....	3	.....	9	.....	NNW	0.157	4.0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.39	746.4	29.70	754.4	59.0	15	55	SW	.....	.....	8	.....	10-	.....	.....	0.110	2.8	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.48	723.7	29.83	757.6	58.6	14.8	60	SE	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	Alluard, Director.
Commercy, Normal School	28.92	734.5	29.79	756.7	54.1	12.3	76	SW	.....	.....	2	.....	5kn;s	.....	SW	0.264	6.7	Cloudy	Dr. Coulet, Director
Commune de Grénsque*	28.92	734.5	30.06	763.5	57.2	14.0	63	S	.....	.....	2	.....	8	.....	SE	0	0	Very cloudy	M. Kina, Director.
Grenoble, Normal School	29.17	740.8	29.93	760.2	56.8	13.8	76	SSW	.....	.....	3	.....	5cs	.....	NW	0	0	Cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.47	748.6	29.69	754.0	53.2	11.8	93	SSW	.....	.....	1	.....	10	.....	.....	0.055	1.4	Raining	Mouillot, Director.
Le Mans, Normal School	29.31	744.4	29.61	752.1	54.5	12.5	98	W	.....	.....	6	.....	8	.....	W	0.177	4.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.96	735.6	29.20	759.5	58.1	14.5	62	S	.....	.....	6	.....	5	.....	SW	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.34	745.2	29.41	747.1	50.7	10.4	97	S	.....	.....	8	.....	.....	.....	S	0.386	9.8	....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galxin, Director
Mirecourt, Normal School	28.73	729.8	29.77	756.2	54.0	12.2	74	NNE	.....	.....	5	.....	kn	.....	SW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.35	758.1	30.05	763.3	59.4	15.2	70	SW	.....	.....	3	.....	10	.....	W	0	0	Covered	Boyer, Director.
Privas, Normal School	28.97	736.7	30.04	762.9	52.9	11.6	71	S	.....	.....	3	.....	n	SSW	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.98	634.5	.....	.....	41.5	5.3	77	SSW	.....	.....	3	.....	5	.....	.....	0	0	Almost cov.	Alluard, Director.
Rochefort, Naval Obs'y	29.67	753.5	29.70	754.3	57.9	14.4	79	SSW	.....	.....	1	.....	10	SSW	SSW	0.20	5.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.46	748.3	29.54	750.4	56.3	13.5	79	S	.....	.....	2	.....	8	.....	SW	0.016	0.4	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.41	747.1	29.45	747.9	54.5	12.5	93	S	.....	.....	6	.....	8	SSW	SSW	0.024	0.60	Raining	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.47	748.4	29.63	752.6	56.3	13.5	74	SSW	.....	.....	3	.....	10	.....	WSW	0.154	3.9	Covered	E. Renou, Director.
Tarbes, Normal School	29.65	727.8	29.75	755.7	48.2	9	61	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Versailles Observatory	29.13	739.8	29.61	752.2	56.1	13.4	.....	SW	.....	.....	3	.....	10	.....	.....	0.109	2.76	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.12	739.7	29.82	757.5	59.9	15.5	74	SE	.....	.....	3	.....	8	.....	SE	0	0	Very cloudy	M. Gausserand, Director.
Sub-Series.																			
Fort de France, Martinique	30.00	762.1	30.03	762.8	73.8	23.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.63	16.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.87	758.6	59.0	15.0	55	S	.....	.....	6	.....	6	.....	.....	0	0	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.78	629.4	30.10	764.4	44.6	7.0	69	S	.....	.....	8	.....	10	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.12	765.0	47.3	8.5	80	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.35	745.5	.....	.....	55.8	13.2	74	SW	.....	.....	4	.....	10	.....	WSW	0 098	2.5	.....	Marié Davy, Director.
Perpignan	29.78	756.5	29.89	759.2	52.2	11.2	84	NW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.39	568.6	.....	.....	40.5	4.7	.....	W	.....	.....	8	.....	10	.....	.....	0	0	Covered	Gen'l de Nansouty.
Toulouse, Observatory	29.13	739.8	29.84	758.0	55.0	12.8	85	SSE	.....	.....	4	.....	8	.....	.....	0	0	.....	M. Mercadier Juller.
Tours	29.46	748.3	29.66	753.3	58.1	14.5	66	S	.....	.....	2	.....	8	.....	W	0	0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.50	774.8	30.53	775 5	32.0	0.0	87	NNW	0.9	0.4	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Grenoble on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grénsque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.95	735.2	29.78	756.5	45.0	7.2	90	SW			6		8	SW		0.118	3.0	Raining	Prof. Dr. Hoh.
Berlin	29.40	746.7	29.57	751.1	45.3	7.4	91	SW			4		10			0.146	3.7	Raining	Prof. Arndt.
Breslau	29.28	743.1	29.78	756.5	47.1	8.4	75	SSW			3		10			0.010	0.25	Rainy	Royal University Obs'y
Carlsruhe	29.32	744.8	29.74	755.5	57.2	14.0	55	SW			4		10	SW		0.264	6.7		Albert Senz.
Cassel	29.00	736.6	29.60	751.8	46.0	7.8	88	SW			3		8	SW		0.116	2.96	Raining	Dr. H. Möhl.
Crefeld	29.36	745.8	29.52	749.9	53.6	12.0	81	SW			6		9			0.16	4.		Director Lose.
Emden					44.8	7.1	97	WSW			5		10			0.35	9.		Prof. Prestel.
Frankfort on the Main	29.34	745.1	29.74	755.5	49.5	9.9		SSW			2		10			0.091	2.3		Physical Society.
Friedrichshafen	28.43	722.2	29.82	757.3	49.6	9.8	70	E			3		7	SW		0.016	0.4	Light rain	M. Wilhelm.
Hamburg	29.32	744.7	29.39	746.5	46.4	8.0	99	SW			7		10n			0.256	6.5	Raining	Captain F. Hegemann.
Kiel	29.31	744.4	29.32	744.8	44.2	6.8	100	SW			4		10			0.444	11.27		Prof. G. Karsten.
Königsberg, (Prussia)	29.52	749.7	29.60	751.8	37.9	3.3	87	SW			4		8			0.122	3:1		Prof. E Luther.
Köslin			29.52	749.7	39.7	4.3		SW			4		5			0.118	3.0		H. Müller.
Leipsic, Observatory	29.26	743.2	29.68	753.9	47.7	8.7	77	SSW			3		10	SW				Rainy	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.51	749.6	29.66	750.8	37.0	2.8	91	SW			3		8cs						Skalweit.
Neufahrwasser	29.60	751.7	29.61	752.1	40 8	4.9	87	SW			1		10			0.079	2.0	Raining	A. Lothes.
Posen	29.43	747.6	29.73	755.1	44.2	6.8	87	SW			5		10			0.016	0.4	Light rain	Dr. Magener.
Strassburg (in Alsace)	29.24	742.6	29.78	756.3	57.0	13.9	59	SSW			3		9			0.036	0.93		Imp. University Observatory.
Stuttgart	28.83	732.3	29.76	756.0	55.8	13.2	59	W			5		8	W		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.32	719.3	29.84	757.9	46.4	8.0	66	S	22	10			9ck		W	0.106	2.7	Squally	Dr. Van Bebber.
Wustrow, Naval School	29.39	746.6	29.42	747.2	39.4	4.1	100	S			3		10			0.244	6.2	Raining	E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.66	753.3	30.05	763.2	62.4	16.9		SW			0.5							Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.6	28.96	760 9	73.0	22.8	17	NW	15	6.7			0			0	0	Blue sky	
Dessa	29.43	747.6	29.91	759.8	75.5	24.2	25	NW	10.4	4.6			0			0	0	Blue sky	
Bombay	29.91	759.7	29.95	760.6	76.0	24.4	69	NW	9	4.0			8	WNW		0	0	D. clouds	
Poonah	27.92	709.0	29.90	759.6	82.9	28.3		ENE					0			0	0	Blue sky	
Lahore	29.21	741.8	29.97	761.3	65.6	18.7	23	Calm	1.1	0.5						0	0	Blue sky	
Belgaum	27.37	695.3	29.87	758.8	84.5	29.2	37	W	5	2.2			1			0	0	D. clouds	
Roorkee	29.01	736.7	29.93	760.2	67.8	19.9	14	NW	1	0.4						0	0	Blue sky	
Agra	29.34	745.3	29.92	760.0	72.2	22.3	60									0	0		
Nagpur	28.81	731.7	29.85	758.1	83.1	28.4	28	Calm	5.6	2.5						0	0	Blue sky	
Lucknow	29.55	750.7	29.94	760.4	68.9	20.5	47	N	0.8	0.1						0	0	Blue sky	
Allahabad	29.61	752.1	29.93	760.2	69.9	21.1	32	NE	1.7	0.8			10		W	0	0	Overcast	
Patna	29.80	756.8	29.98	761.6	65.4	18.6	73	W	0.6	0.3			10	W	W	0	0	Overcast	
Hazaribagh	27.88	708.1	29.91	759.7	73.8	23.2	39	ENE	4.2	1.9			9			0	0	Thunder	
Cuttack	29.86	758.3	29.94	760.4	82.0	27.8	34	S	3.4	1.5			0			0	0	Blue sky	
Calcutta (Alipore)	29.92	759.9	29.94	760.5	78.1	25.6	64	SW	3.0	1.3			0			0	0	Blue sky	
Goalpara																			
Chittagong	29.87	758.8	29.97	761.2	73.3	22.9	89	WSW	4.5	2.0			0			0	0	Misty	
Sibsagar	29.64	752.9	29.99	761.8	65.2	18.4	71	NE	2.5	1.1			8	W	W	0	0	D. clouds	
Jubbulpore					79.2	26.2	44	NW	4.7	2.1			4			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,952.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,561 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.0	30.11	764.7	50.4	10.2	73	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.99	761.8	30.10	764.6	49.3	9.6	76	NNE	0.7	0.3	.....	.....	10	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.58	751.3	30.11	764.9	46.8	8.2	84	NNE	.....	.....	1	.....	10	.....	.....	0.102	2.6	.....	Prof. Schiaparelli.
Moncalieri	29.18	741.2	30.11	764.9	44 6	7.0	85	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.15	715.1	30.10	764.6	45.0	7.2	80	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.90	759.5	30.10	764.4	55.4	13.0	87	SE	3.8	1.7	.....	.....	8	SE	.....	0.047	1.2	.....	Prof. G. M. Garibaldi.
Florence	29.87	758.7	30.13	765.3	52.5	11.4	84	WNW	.....	.....	4	.....	10	S	.....	0.016	0.4	.....	Cav. F Meucci
Leghorn	30.01	762.3	30.10	764.5	58.6	14.8	85	SSW	4.3	1.9	.....	.....	10	SSW	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.03	762.7	30.08	763.9	57.7	14.3	69	SE	4.9	2.2	.....	.....	10	SW	.....	0	0	.....	Prof. Luigi Guidi.
Rome	30.00	761.9	30.17	766.4	56.1	13.4	79	SSW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Prof. P S. Ferrari.
Lecce	29.86	758.4	30.11	764.9	56.3	13.5	72	ESE	4.0	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.92	759.9	30.11	764.8	60.3	15.7	72	S	.....	.....	2	.....	4	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.27	743.4	30.17	766.2	57.2	14.0	76	NW	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.94	760.5	30.20	767.0	58.1	14.5	72	NE	0.7	0.3	.....	.....	10	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.11	764.8	30.18	766.6	57.4	14.1	68	E	3.8	1.7	.....	.....	3	WSW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.62	752.3	30.17	766.4	55.8	13.2	90	WSW	0	0	.....	.....	10	.....	.....	0.020	0.5	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.30	769.6	30.32	770.1	32.9	0.5	71	N	5.4	2.4	.....	.....	2s	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.12	765.0	30.33	770.4	35.8	2.1	78	Calm	0	0	.....	.....	10c;cs	W	.....	0	0	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.14	765.5	30.21	767.3	32.8	0.4	57	NW	7.7	3.4	.....	0	0	.....	.....	0	0	Clear.	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638 6	30.38	771.7	39.6	4.2	54	Calm	.....	.....	0	1c	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.52	623.0	30.22	767.8	48.9	9.4	79	SE	.....	.....	1	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.15	588.1	30.35	770.9	44.2	6.8	80	Calm	0	0	.....	0	1k	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	43.3	6.3	76	SSW	.....	.....	1	1cs	0	.....	.....	0	0	Clear.	M. V. de Leon, M. E.
Tlacotalpam	30.20	767.1	30.21	767.4	64.6	18.1	91	W	.....	.....	3	5	5	NE	NW	0.106	2.7	Rainy	M. M. Cházaro.
San Luis Potosi	24.30	617 2	30.28	769.0	47.0	8.3	17	SE	.....	.....	.....	.....	10	.....	SE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.22	767.7	30.25	768.4	68.0	20.0	90	NW	0.9	0.4	.....	.....	10sk	.....	.....	0	0	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.48	596.3	30.24	768.2	41.7	5.4	84	ENE	3.1	1.4	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.45	722.7	30.12	765.2	72.1	22.3	63	NE	.....	.....	1	0	2	.....	SW	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.10	764.5	30.23	767.9	68	20	.....	NW	.....	.....	1	6n	4n	N	N	0.011	0.3	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 582 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.61	752.0	29.61	752.0	43.2	6.2	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0.213	5.4	.....	.....
Groningen	.....	.....	.....	.....	46.4	8.0	.....	SW	.....	.....	5	.....	.....	.....	.....	0 331	8.4	.....	.....
Helder	29.34	745.1	29.34	745 1	42.1	5.6	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.228	5.8	.....	.....
Hellevoetsluis	29.43	747.6	29.43	747.6	47.7	8.7	97	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.40	746.8	29.45	748.0	50.5	10.3	97	SW	.....	.....	5	.....	8	.....	.....	0.476	12.1	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.21	742.0	29.27	743.4	38.1	3.4	93	SSE	2.5	1.1	.....	.....	10	.....	.....	0.047	1.2	Light rain...	
Brönö	29.37	746.1	29.41	747.1	23.0	— 5.0	76	SE	9	4	.....	.....	9	.....	.....	0	0	.....	.....
Christiania	29.24	742.8	29.40	746.7	24.3	— 4.3	73	ENE	7	3	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.63	752.7	29.68	753.8	21.2	— 6.0	54	S	20	9	.....	.....	7	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.23	742.5	29.43	747.5	53.2	11.8	83	W	31.8	14.2	.....	.....	8	.....	.....	0.591	15.0	.....	Dr. J. A. Sampaio.
Campo Major	29 99	736.4	30.03	762 7	56.7	13.7	82	SSW	21.7	9.7	.....	.....	10	SSW	.....	0.047	1.2	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.02	762.6	30.11	764.8	63 7	17.6	87	SW	8.1	3.6	.....	.....	10	.....	.....	0.126	3.2	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.61	752.0	29.97	761.1	59.4	15.2	88	SSW	24.8	11.1	.....	.....	10	.....	.....	0.031	0.8	.....	The Staff.
Ponta Delgada, (Azores)	29.45	748.0	29.52	749.8	61.9	16.6	75	W	29.8	13.3	.....	.....	3	.....	.....	0.504	12.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.93	760.2	84.2	29.0	.....	WSW	.....	.....	2	.....	1	.....	WSW	1	.....	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. T. d'Oliveria, Com'd't.
Rio Lima, Capt. da Silva Costa. Porto de Bulama. N. 11° 29', W. 15° 36'	.....	.....	29.92	760.0	76.3	24.6	.....	Var.	.....	.....	2	.....	1	.....	Var.	1	Var.	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.80	757.0	83.5	28.6	.....	W	.....	.....	4	.....	5	.....	.....	1	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.32	770.1	65.8	13.2	.....	N	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.35	745.4	29.78	756.3	40.8	4.9	81	S	11	5	.....	.....	10ks	.....	.....	.....	.....	Solar corona.	Astronomical Obs.
Wilna	29.24	742.6	29.67	753.5	38 7	3.7	85	S	11	5	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	29.19	741.4	29.44	747.7	35.1	1.7	94	SSW	11	5	.....	.....	10n	.....	.....	.....	.....	..	Prof. Dr. Weihrauch.
St. Petersburg	29.39	746.6	29.41	747.0	35.2	1.8	95	SSW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.24	742.6	29.90	759.4	34.5	1.4	96	W	4	2	.....	.....	10n;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.97	761.2	30.04	763.0	34.2	1.2	98	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy mist..	Kurdakof.
Kertch	29.96	760.9	29.98	761.4	41.0	5.0	100	NW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.33	745.0	29.90	759.5	30.0	— 1.1	100	S	9	4	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.77	756.2	29.98	761.6	33 8	1.0	89	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.02	762.5	30.04	763.0	— 5.1	—20.6	79	ENE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.65	727 7	30.10	764.5	47.1	8.4	64	Calm	0	0	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.23	767.7	30.14	765.6	39.2	4.4	75	ESE	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Zrotkowo*	29.65	753.0	30.14	765.5	32.4	0.2	88	SSW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.79	756.6	30.07	763 8	30.2	— 1.0	93	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.06	738.0	30.08	764.1	19.6	— 6.9	78	W	18	8	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nukuss	30.13	765.3	30.37	771.5	39.2	4.0	.....	ESE	2	1	.....	.....	2cs	.....	.....	.....	.....	.....	
Tashkend	28.82	732.1	30.65	778.5	29.5	— 1.4	96	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.86	758.4	30.41	772.4	9.5	—12.5	78	SW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.82	757 5	30.14	765.6	8.8	—12.9	81	S	20	9	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.34	770.5	30.48	774.1	29.5	— 1.4	53	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.08	763 9	57.9	14.4	59	WSW	2.6	1.17	.....	.....	3ck	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.70	754.3	29.75	755.7	63.9	17.7	56	S	7.2	3.22	.....	.....	10	.....	.....	0.004	0.1	Rainy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.91	683.4	.....	.....	53.6	12.0	78	SW	13.5	6.05	.....	.....	6	.....	.....	0	0	Cloudy	Domingo Martin y Perez
Madrid, Royal Observatory	27.81	706.4	.....	.....	52.2	11.2	81	S	17.2	* 7.67	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.93	760.2	30.03	764.0	67.6	19.8	66	W	1.3	0.58	.....	3	6	SE	.....	0	0	Almost covd.	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.63	727.1	29.51	749.5	55.9	13.3	92	S	51.0	22.8	.....	.....	10	.....	.....	3.048	78.4	Raining	R. Gil Villanueva, Dir
Sub-Series.																			
Havana, Cuba, W. I.	30.11	764.8	30.18	766.5	68.6	20.3	76	N	14.8	6.6	.....	3pc	7k	.....	NNW	0.429	10.9	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.92	760.1	29.98	761.4	81.0	27.2	74	NE	0	0	.....	.....	4cs	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	764.1	30.18	766.6	61.7	16.5	84	S	8.3	3.7	.....	0	10	.....	S	0	0	.....	
San Juan de Porto Rico, W. I.	30.00	762.0	30.09	764.3	74.8	23.8	95	SW	0	0	.....	ócs	3k	SW	SW	0.010	0.25	D. clouds	Capt. C. Pujazon, R. N. Dir. Leonardo de Tejeda, Ch'f. Eng.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.04	762.9	29.68	753.9	15.1	— 9.4	.....	E	.....	.....	6	.....	10	.....	.....	0.157	4.0	Snowing.....	
Umea	29.41	747.1	29.47	748.4	16.5	— 8.6	100	NE	.....	.....	4	.....	10	.....	.....	0.150	3.8	Snowing.....	
Hernosand	29.36	745.8	29.41	747.1	14.4	— 9.8	87	N	.....	.....	4	.....	10	.....	.....	0.228	5.8	Snowing	
Stockholm	29.21	742.0	29.39	746.5	18.3	— 7.6	89	WNW	.....	.....	2	.....	10	.....	.....	0.295	7.5	.....	
Wisby	29.30	744.2	29.36	745.7	32.4	0.2	96	N	.....	.....	6	.....	10	.....	.....	0.173	4.4	.....	
Sub-Series.																			
Upsala	29.31	744.4	29.38	746.3	10.2	— 8.8	85	NW	11.4	5.1	.....	.....	10	.....	.....	0.022	0.55	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.47	723.2	29.89	759.1	58.1	14.5	43	W	.....	.....	5	.....	4	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.26	717.9	29.93	760.1	48.0	8.9	62	SE	.....	.....	2	.....	5	.....	.....	0.008	0.2	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.4 mm.; Thermometer, +11.5 ent.; Relative Humidity, —30 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.4	44.8	7.1	91	E	4	2.0	.....	.....	10	.....	NE	0.28	7.	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....
Valona	.....	.....	30.15	765.7	56.8	13.8	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.86	758.4	29.98	761.4	68.9	20.5	69	SW	.....	.....	2	.....	5ks	.....	SW	0.05	1.3	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.49	749.0	29.81	757.2	28	— 2.2	.....	W	13	5.8	.....	.....	8s	.....	W	0.20	5.1	Cloudy.....	W. R. Bigg.
*Chatham, N. B	30.17	766.3	30.24	768.1	— 2	—18.9	97	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.20	767.1	30.24	768.1	0	—14.4	93	W	2	0.9	.....	0	0	.....	.....	0	0	Clear.	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.72	754.9	28.0	— 2.2	91	W	.....	.....	5	.....	10n	.....	.....	0.10	2.5	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.62	752.3	29.67	753 6	37.1	2.8	92	SW	.....	.....	.....	.....	10cs	.....	.....	0	0	Cloudy.....	W. H. Bevis.
*Father Point, Quebec	30.08	764 0	30.10	764.5	10	—12.2	75	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.19	766.8	30.26	768.6	—10.8	—28.5	96	N	1	0.4	.....	cs	0	.....	.....	0.18	3.8	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.47	748.5	30.43	772.9	—14	—25.6	100	SE	10	4.5	.....	Haze	Haze	.....	.....	0	0	Hazy.....	James Stewart.
Granton, Ontario	29.06	738.1	30.24	768.1	20	— 6.7	.....	NW	.....	.....	2	1c	0	.....	.....	Inap.	Inap.	Clear.	James Grant.
*Halifax, N. S	30.10	764.5	30.25	768 3	5	—15.0	85	Calm	0	0	.....	2ck	0	W	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.79	756.7	30.19	766.8	24.7	— 4.1	93	SW	.....	.....	2	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29 51	749.5	29.86	758.4	26	— 3.3	85	SW	26	11.6	.....	.....	10ks	.....	SW	0.13	3.3	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.15	765.8	30.20	767.1	15.2	— 9.3	93	W	6	2.7	.....	4k	0	W	.....	0	0	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.56	750.8	29.77	756.1	20	— 6.7	99	S	20	8.9	.....	.....	10n	.....	.....	0.28	7.1	Heavy snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.38	746.2	30.13	765.3	17	— 8.3	83	NW	16	7.2	.....	2ck	2ks	NW	NW	0.20	5.1	Fair	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.58	751.3	30.27	768.8	23	— 5.0	85	W	20	8.9	.....	0	5ks	.....	W	Inap.	Inap.	Clear.....	M. Payne.
*Quebec, Quebec	29.69	754.1	30.04	763.0	11	—11.7	100	NE	.....	.....	1	.....	10n	.....	E	0.01	0.3	Light snow.	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	30.26	768.6	30.31	769.9	22	— 5.6	58	NE	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	30.02	762.5	30.21	767.3	8	—13.3	78	NW	1	0.4	.....	0	0	.....	.....	0.17	4.3	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.46	748.3	30.22	767.6	21	— 6.1	90	NW	34	15.2	.....	.....	10s	.....	.....	0.06	1.5	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.85	732.8	30.23	767.8	19.3	— 7.1	89	NW	15.0	6 7	.....	0	0s	.....	.....	0.10	2.5	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.14	765.5	30.18	766.6	17	— 8.3	75	W	11	4.9	.....	2k	0	.....	.....	0	0	Clear.	T. C. Hill.
*Toronto, Ontario	29.70	754.4	30.11	764.8	29	— 5.0	61	W	31	13.9	.....	0	0	.....	.....	0	0	Clear.....	Magnetic Observatory.
Windsor, N. S	30.15	765.8	30.25	768.3	7	—13.9	100	W	3	1.3	.....	4cs	0	.....	.....	0	0	Fair.....	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	17.0	— 8.3	83	NW	.....	.....	.....	10k	10s	.....	.....	0	0	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.77	756.1	30.01	762.2	24	— 4.4	74	S	20	8.9			10s		Calm	0	0	Cloudy	
Alpena, Michigan	29.65	753.1	30.36	771.1	15	— 9.4	82	NW	20	8.9		0	5s		NW	0.05	1.3	Fair	
Atlanta, Georgia	29.16	740.7	30.37	771.4	38	3.3	63	NE	5	2.2		5c	Sm'e	Calm	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.23	767 8	30.24	768.1	31	— 0.6	69	SW	10	4.5		0	0			0	0	Clear	
Augusta, Georgia	30.20	767.1	30.38	771.6	32	0.0	69	N	4	1.8		5cs	Haze	N	Calm	0	0	Fair	
Baltimore, Maryland	30.19	766.8	30.24	768 1	25	— 3.9	87	S	5	2.2		5c	Sm'e	SW	Calm	0	0	Fair	
Barnegat, New Jersey	30.18	766.6	30.20	767.1	25	— 3.9	87	SW	7	3.1		2c	0	Calm		0	0	Clear	
Bismarck, Dakota	28.97	713.0	29.92	760.0	6	—14.4	88	SE	18	8.0			10s		W	0	0	Cloudy	
Boerne, Texas	28.84	732.5	30.25	768.3	32	0.0	79	NW	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	26.94	684.3	29.90	759.4	42	5.6	83	SE	12	5.4			10n		Calm	0.05	1.3	Light rain	
Boston, Massachusetts	29.99	761.7	30.16	766.1	23	— 5.0	60	S	13	5.8		2ck	8s	Calm	SW	0	0	Cloudy	
Brackettville, Texas	29.12	739.6	30.18	766.6	49	9.4	85	E	4	1.8		2ck	8cs	Calm	SE	0	0	Cloudy	
Breckenridge, Minnesota	29.17	740.9	30.29	769.4	3	—16.1	92	SE	24	10.7			10s		Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	30.13	765.3	30.20	767.1	56	13.3	94	E	4	1 8			10s		Calm	0	0	Cloudy	
Buffalo, New York	29.41	747.0	30.15	765.8	25	— 3.9	75	W	18	8.0		4k	0	NW		Inap.	Inap.	Fair	
Burkes, Arizona					49	9.4	Inap.	Calm			0	0	2s		Calm	0	0	Clear	
Burlington, Vermont	29.60	751.8	29.90	759.4	21	— 6.1	86	S	24	10.7			10n		SW	Inap.	Inap.	Light snow	
Cairo, Illinois	30.08	764 0	30.50	774.7	37	2.8	63	N	8	3.6		0	0			0	0	Clear	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.21	640.3	30.01	762.2	45	7.2	53	SE	4	1.8			10s		S	0	0	Cloudy	
Camp Verde, Arizona					39	3.9	73	S			1		10s		Calm	0	0	Cloudy	
Campo, California	27.53	699.2	30.10	764.5	32	0.0	79	Calm	0	0		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.28	769.1	30.29	769.4	38	3.3	80	NE	14	6.3		2k	0	NW		0	0	Fair	
Cape Henry, Virginia	30.25	768.3	30.27	768.8	30	— 1.1	78	Calm	0	0		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.28	769.1	30.30	769.6	34	1.1	90	N	20	8.9		0	0			0	0	Clear	
Cape May, New Jersey	30.22	767.6	30.25	768 3	32	0.0	79	S	18	8.0		0	0			0	0	Clear	
Castroville, Texas	29.53	750.0	30.30	769.6	37	2.8	81	W	4	1.8		2c	0	Calm		0	0	Fair	
Charleston, South Carolina	30.30	769.6	30.37	771.4	36	2.2	71	N	7	3.1		8c;cs	0	W		0.88	22.4	Fair	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	26	— 3.3	63	S	4	1.8		0	5s		Calm	0	0	Fair	
Chicago, Illinois	29.72	754.9	30.48	774.2	23	— 5.0	86	N	4	1.8		8ck	2s	E	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.75	755.6	30.44	773.2	34	1.1	65	NW	4	1.8		0	0			0	0	Clear	
Cleveland, Ohio	29.60	751.8	30.37	771.4	27	— 2.8	64	NW	21	9.4			10s		W	0	0	Cloudy	
Coleman City, Texas	28.44	722.4	30.20	767.1	36	2.2	80	Calm	0	0		8cs	2s	W	Calm	0	0	Cloudy	
Columbus, Ohio	29.50	749.3	30.40	772.1	31	— 0.6	68	NW	10	4.5		5k	2s	W	Calm	0	0	Fair	
Corpus Christi, Texas	28.29	718.6	30.04	763.0	39	3.9	81	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.38	758.9	30.38	771.6	38	3.3	72	E	5	2.2		Haze	0			0	0	Clear	
Davenport, Iowa	29.78	756.4	30.48	774.2	21	— 6.1	72	E	8	3.6		5cs	0	W		0	0	Fair	
Deadwood, Dakota	25.09	637.3			37	2.8	81	NE	4	1.8		5cs	0	Calm		0	0	Fair	
Decatur, Texas	29.12	739.6	30.34	770.6	40	4.4	89	SE	10	4.5			10s		SE	0	0	Cloudy	
Denison, Texas	29.54	750.3	30.38	771.6	40	4.4	65	SE	5	2.2		0	0			0	0	Clear	
Denver, Colorado	24.69	627.1	29.91	759.7	31	— 0.6	58	S	8	3.6		5c	0	Calm		0	0	Fair	
Des Moines, Iowa	29.51	749.5	30.49	774.4	13	—10.6	81	Calm	0	0		0	2s		W	0	0	Clear	
Detroit, Michigan	29.66	753.4	30.39	771 9	23	— 5.0	60	NW	12	5.4		0	0			0	0	Clear	
Dodge City, Kansas	27.58	700.5	30.01	762.2	25	— 3.9	87	Calm	0	0		5c	0	W		0	0	Fair	
Dubuque, Iowa	29.73	755.1	30.50	774.7	17	— 8.3	67	SE	1	0.4			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.72	754.9	30.49	774.4	35	1.7	87	NW	4	1.8			10s		Calm	0.05	1.3	Cloudy	
Eagle Pass, Texas	29.47	748.5	30.25	768.3	44	6.7	92	SE			1		10s		Calm	0	0	Cloudy	
Eastport, Maine	30.12	765.0	30.19	766.8	19	— 7.2	85	NE	4	1.8		10c	2ks	W	Calm	0	0	Cloudy	
Edinburg, Texas					51	10.6	93	NE			1		10ks		S	0	0	Fair	
El Paso, Texas	26.29	667.8			41	5.0	48	SE	4	1.8		5k	0	SE		0	0	Cloudy	
Erie, Pennsylvania	29.52	749.8	30.28	769.1	25	— 3.9	87	W	12	5.4		2k	5s	NW	NW	0	0	Cloudy	
Escanaba, Michigan	29.77	756.1	30.50	774.7	9	—12.8	78	NW	6	2.7		0	5s		NW	0.13	3.3	Fair	
Florence, Arizona	28.56	725.4	30.16	766.1	47	8.3	85	Calm	0	0			10s		Calm	0	0	Cloudy	
Fort Buford, Dakota	27.66	702.6			7	—13.9	77	SE			1	2c	0	Calm		0	0	Fair	
Fort Craig, New Mexico	25.59	650.0	29.66	753.4	34	1.1	69	Calm	0	0		8cs	0	W		0	0	Fair	
Fort Davis, Texas	25.30	642.6	30.26	768.6	39	3.9	71	Calm	0	0		8k	0	W		0	0	Fair	
Fort Gibson, Indian Ter	29.79	756.7	30.37	771.4	33	0.6	70	E	4	1.8		2c	0	NW		0	0	Clear	
Fort Griffin, Texas	28.97	735.8	30.32	770.1	32	0.0	79	Calm	0	0		5ck	5s	Calm	Calm	0	0	Fair	
Fort Keogh, Montana	27.12	688.8			13	—10.6	81	SW	3	1.3		8c	0	Calm		0	0	Fair	
Fort McKavett, Texas	27.94	709.7	29.91	759.7	45	7.2	61	S	10	4.5		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	29.03	737.3	30.18	766.6	41	5.0	74	S	10	4.5		0	8s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.06	712.7			6	—14.4	76	S			4	4cs	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.49	723.6	30.10	764.5	45	7.2	76	Calm	0	0		8cs	0	Calm		0	0	Fair	
Galveston, Texas	30.32	770.1	30.37	771.4	49	9.4	85	NE	8	3.6		0	0			0	0	Clear	
Graham, Texas	29.19	741.4	30.29	769.4	41	5.0	82	SE	6	2.7		5cs	0	SE		0	0	Fair	
Grand Haven, Michigan	29.75	755.6	30.45	773.4	22	— 5.6	72	N	10	4.5		0	8s		N	0	0	Fair	
Indianapolis, Indiana	29.61	752.1	30.44	773.2	30	— 1.1	78	NW	3	1.3		2c	0	Calm		0	0	Clear	
Indianola, Texas	30.33	770.4	30.36	771.1	51	10.6	86	E	9	4.0		2cs	0	Calm		0	0	Fair	
Jacksboro, Texas	29.11	739.4	30.29	769.4	40	4.4	82	S	6	2.7		8cs	0	S		0	0	Cloudy	
Jacksonville, Florida	30.31	769.9	30.34	770.6	58	3.3	72	NW	6	2.7		0	0			0.41	10.4	Clear	
Keokuk, Iowa	29.82	757.4	30.50	774.7	23	— 5.0	73	N	1	0.4		0	0			0	0	Clear	
Key West, Florida	30.16	766.1	30.20	767.1	63	17.2	83	NE	21	9.4		10k	0	N		0.84	21.3	Cloudy	
Kittyhawk North Carolina	30.27	768.8	30.29	769.4	32	0.0	89	N	7	3.1		0	0			0	0	Clear	
Knoxville, Tennessee	29.38	746.2	30.45	773.4	28	— 2.2	94	SW	1	0.4		2cs	Fog	Calm		0	0	Dense fog	
La Crosse, Wisconsin	29.66	753.4	30.47	773.9	14	—10.0	82	N	3	1.3			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	30	3.9	64	NE	1	0.4			10s		N	0	0	Cloudy	
Laredo, Texas	29.86	758.4	30.21	767.3	46	7.8	92	Calm	0	0		10cs	0	Calm		0	0	Cloudy	
Leavenworth, Kansas	29.50	749.3	30.41	772.4	25	— 3.9	75	SE	6	2.7		0	0			0	0	Clear	
Los Angeles, California	29.78	756.4	30.13	765.3	48	9.2	85	NE	4	1.8		0	1s		Calm	0	0	Clear	
Louisville, Kentucky	29.84	757.9	30.44	773.2	34	1.1	61	NW	7	3.1		0	Sm'e		Calm	0	0	Clear	
Lynchburg, Virginia	29.57	751.1	30.29	769.4	31	— 0.6	79	SW	2	0.9		5cs	0	Calm		0	0	Fair	
Madison, Wisconsin	29.43	747.5	30.52	775.2	12	— 7.8	68	N	4	1.8		5ck	5s	NW	NW	0	0	Cloudy	
Marquette, Michigan	29.67	753.6	30.45	773.4	11	—11.7	80	W	12	5.4			10s		Calm	0.49	12.4	Cloudy	
Mason, Texas	26.63	727.2	30.50	774.7	37	2.8	90	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	30.11	764.8	30.45	773.4	33	0.6	89	Calm	0	0		0	Fog		Calm	0	0	Foggy	
Milwaukee, Wisconsin	29.71	754.6	30.52	775.2	18	— 7.8	68	NW	8	3.6		0	1s		Calm	0	0	Clear	
Mobile, Alabama	30.36	771.1	30.40	772.1	40	4.4	82	N	5	2.2		0	0			0	0	Clear	
Montgomery, Alabama	30.17	766.3	30.42	772.6	39	3.9	81	NE	2	0.9		0	1s;fg		Calm	0	0	Clear	
Morgantown, West Virginia	29.20	741.7	30.30	769.6	38	3.3	63	SW	7	3.1			10ks		SW	0	0	Cloudy	
Mt. Washington, N. H.	23.35	593.1	29.71	754.6	5	—15.0	87	W	48	21.5			Fog		W	0	0	Foggy	
Nashville, Tennessee	29.88	758.9	30.46	773.7	32	0.0	79	Calm	0	0		0	0			0	0	Clear	
New Haven, Connecticut	30.04	763.0	30.16	766.1	26	— 3.3	75	SW	3	1.3		8ck	Haze	SW	Calm	0	0	Hazy	
New London, Connecticut	30.13	765.3	30.18	766.6	31	— 0.6	69	S	10	4.5		3ck	1ks	W	S	0	0	Fair	
New Orleans, Louisiana	30.32	770.1	30.38	771.6	45	7.2	61	N	8	3.6		0	0			0	0	Clear	
Newport, Rhode Island	30.14	765.5	30.19	766.8	31	— 0.6	69	S	8	3.6			10ks		S	0	0	Cloudy	
New York, New York	30.01	762.2	30.20	767 1	27	— 2.8	66	W	11	4.9		2cs	5ks	Calm	E	0	0	Fair	
Norfolk, Virginia	30.24	768.1	30.30	769.6	29	— 1.7	45	Calm	0	0		0	Haze			0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	1—10	Up'er 1—10	Low'r 1—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.16	689.8	29.90	759.4	20	— 6.7	85	S	10	4.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.66	753.4	29.70	754.4	34.2	1.2	90	S	5	2.2	.....	.....	10s	.....	S	0.78	19.8	Cloudy	
Omaha, Nebraska	29.16	740.7	30.36	771.1	18	— 7.8	76	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.64	752.8	29.97	761.2	31	— 0.6	79	SW	28	12.5	.....	0	8ks	.....	W	0	0	Fair	
Pembina, Dakota	29.41	747.0	30.36	771.1	— 9	—22.8	100	E	6	2.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Philadelphia, Pa	30.15	765.8	30.21	767.3	25	— 3.9	62	SW	12	5.4	.....	0	Fog	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.93	734.8	30.76	781.8	48	8.9	70	Calm	.....	.....	0	.....	10ks	.....	SW	0	0	Cloudy	
Pike's Peak, Colorado	17.68	446.5	29.79	756.7	7	—13.9	81	W	48	21.5	.....	10cs	0	W	.....	0	0	Cloudy	
Ploche, Nevada	24.02	610.1	29.80	756.9	30	— 1.1	68	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.41	747.0	30.26	768.6	36	1.7	61	NW	16	7.2	.....	10k	0	NW	.....	0	0	Cloudy	
Port Huron, Michigan	29.64	752.8	30.36	771.1	21	— 6.1	86	NW	16	7.2	.....	2k	0	NW	.....	0.02	0.5	Clear	
Portland, Maine	30.10	764.5	30.16	766.1	15	— 9.4	82	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Oregon	29.76	755.9	29.86	758.4	35.0	3.3	91	S	7	3.1	.....	.....	10s	.....	SW	0.69	17.5	Cloudy	
Prescott, Arizona	24.82	630.4	30.18	766.6	23	— 5.0	60	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pilot Point, Texas	29.05	737.9	29.89	759.2	40	4.4	91	SE	12	5.4	.....	2k	8s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.24	768.1	30.36	771.1	53	11.7	80	NE	16	7.2	.....	.....	10s	.....	NE	0.96	24.4	Cloudy	
Red Bluff, California	29.56	750.8	29.92	760.0	49	9.4	93	SE	17	7.6	.....	.....	10s	.....	SE	1.62	41.1	Cloudy	
Rio Grande City, Texas	30.11	764.8	30.33	770.4	51	10.6	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.41	747.0	30.06	763.5	27	— 2.8	88	W	20	8.9	.....	10k	0	W	.....	0	0	Cloudy	
Roseburg, Oregon	29.32	744.7	29.90	759.4	54.0	1.1	100	Calm	0	0	.....	.....	10s;fr	.....	SW;Calm	1.36	34.5	Cloudy	
Sacramento, California	29.87	758.7	29.95	760.7	50	10.0	90	SE	17	7.6	.....	.....	10n	.....	SE	1.02	25.9	Light rain	
St. Louis, Missouri	29.92	760.0	30.54	775.7	26	— 3.3	75	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.36	771.1	30.38	771.6	34	1.1	90	N	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear	
St. Paul, Minnesota	29.49	749.0	30.42	772.6	9	—12.8	78	E	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Salt Lake City, Utah	25.99	659.9	29.92	760.0	38	3.3	45	SE	11	4.9	.....	9k	0	W	.....	0	0	Cloudy	
San Antonio, Texas	29.62	752.3	30.24	768.1	40	4.4	91	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.08	764.0	30.15	765.8	49	9.4	96	Calm	0	0	.....	0	8s	.....	Calm	0	0	Fair	
Sandusky, Ohio	29.67	753.6	30.39	771.9	29	— 1.7	67	NW	22	9.8	.....	6k	5ks	NW	NW	0	0	Cloudy	
Sandy Hook, New Jersey	30.14	765.5	30.17	766.3	27	— 2.8	76	SW	20	8.9	.....	1ck	0	NW	.....	0	0	Clear	
San Francisco, California	29.87	758.7	29.94	760.5	54	12.2	87	SE	8	3.6	.....	.....	10n	.....	Calm	0.94	23.9	Light rain	
Santa Fé, New Mexico	23.27	591.0	29.81	757.2	28	— 2.2	77	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Savannah, Georgia	30.26	768.6	30.36	771.1	36	2.2	80	N	11	4.9	.....	2ck	0	NW	.....	0.30	7.6	Fair	
Shreveport, Louisiana	30.19	766.8	30.42	772.6	37	2.8	81	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Silver City, New Mexico	24.32	617.7	30.64	778.2	37	2.8	80	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Smithville, North Carolina	30.30	769.6	30.34	770.6	33	0.6	89	N	12	5.4	.....	0	8ks	.....	NW	0.22	5.6	Cloudy	
Springfield, Massachusetts	30.00	762.0	30.13	765.3	18	— 7.8	68	SW	11	4.9	.....	.....	10n	.....	S	Inap.	Inap.	Light snow	
Stockton, Texas	27.09	688.1	30.09	764.8	45	7.2	65	SW	12	5.4	.....	10k	0	Calm	.....	0	0	Cloudy	
Thatcher's Island, Mass	30.12	765.0	30.18	766.6	30	— 1.1	78	SW	24	10.7	.....	.....	10s	.....	W	0	0	Cloudy	
Toledo, Ohio	29.66	753.4	30.39	771.9	30	— 1.1	67	N	9	4.0	.....	0	8s	.....	N	0	0	Cloudy	
Tucson, Arizona	27.66	702.6	30.21	767.3	48	8.9	56	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	30.32	770.1	30.35	770.9	39	3.9	73	N	14	6.3	.....	5k	0	N	.....	0.51	13.0	Fair	
Umatilla, Oregon	29.46	748.3	29.97	761.2	37.0	2.8	71	W	16	7.2	.....	0	8s	.....	W	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	34	1.1	100	Calm	.....	.....	0	.....	10s	.....	SW	0.11	2.8	Cloudy	
Uvalde, Texas	29.38	746.2	30.22	767.6	45	7.2	84	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.18	766.6	30.45	773.4	42	5.6	68	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	23.94	608.1	29.42	747.2	32	0.0	59	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.71	754.6	30.08	764.0	50	10.0	72	NE	3	1.3	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Washington, D. C.	30.11	764.8	30.24	768.1	27	— 2.8	76	S	9	4.0	.....	5c	Haze	Calm	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	46	7.8	77	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Wilmington, N. Carolina	30.26	768.6	30.34	770.6	31	— 0.6	68	N	7	3.1	.....	5ck	0	S	.....	0.11	2.8	Fair	
Winnemucca, Nevada	25.49	647.4	29.85	758.2	41	5.0	41	W	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Wood's Holl, Mass	30.13	765.3	30.17	766.3	32	0.0	89	S	18	8.0	.....	.....	10ks	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.96	735.6	30.39	771.9	9	—12.8	78	SE	16	7.2	.....	10ck	0	SW	.....	0	0	Cloudy	
Yuma, Arizona	29.91	759.7	30.08	764.0	50	10.0	39	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	
Sub-Series.																			
Fayetteville, Ark	28 77	730.7	30.25	768.3	39	3.9	99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.13	765.3	30.18	766.6	69	20.6	75	NW	12.0	5.4	.....	.....	8n	.....	NW	0.34	8.6	Clearing	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.99	761.7	30.07	763.8	78	25.6	.....	E	8	3.6	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	83	NE	.....	.....	2	3c	5k	E	.....	1.440	36.58	Fair	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.14	765.5	30.20	767.1	—42.0	—41.1	.....	NW	14	6.3	.....	2c	2s	NW	NW	0	0	Fair	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,633 (?) ft., or 1,478.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,067.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,514 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.5 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,680 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,276 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.46 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.89	759.2	54	12.2	54	12.5	87	S	18	8.0	.....	.....	8	.....	S	0	0	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	44	6.7	68	NE	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	30.12	765.0	50	10.0	12	—11.1	61	WNW	2	0.9	.....	.....	8	.....	.....	.....	.....	.....	.....	Overcast....	
Naval Hospital, Yokohama, Japan.....*	30.16‡	766.6‡	.....	.....	36	2.2	61	N	.....	.....	3	.....	7k	.....	wsw	0	0	.....	.....	Fair.....	
Adams, S. 2° 37′, W. 81° 58′.....	30.00	762.0	77	25.0	76	24.4	95	S	.....	.....	1	.....	8	.....	S	.....	.....	Mod'ate	S;W	Cloudy.....	
Alaska, N. 21° 30′, W. 105° 23′.....	30.11	764.8	73	22.8	66	18.9	84	NW	.....	.....	1	.....	2	.....	S	0	0	Smooth	.....	Hazy	
Alliance, N. 42° 33′, E. 10° 14′.....	30.11‡	764.8‡	.....	.....	58	14.4	82	NNW	.....	.....	0–1	.....	10	.....	N;W	.....	.....	Smooth	.....	Misty.....	
Arhuelor, N. 20° 04′, E. 110° 23′....	30.26‡	768.6‡	.....	.....	55	12.8	93	N	.....	.....	4	.....	10	.....	Calm	.....	.....	Mod'ate	N	Misty.....	
Canonicus, New Orleans, La.....	30.33	770.4	39	3.9	44	6.7	100	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	30.15	765.8	29	— 1.7	29	— 1 7	100	SW	5	2.2	.....	.....	5	.....	WSW	.....	.....	.....	.....	Hazy.....	
Constitution, N 49° 14′, W. 15° 53′.....	28.86‡	733.0‡	.....	.....	51	10.6	??	SW	.....	.....	5	.....	7	.....	wsw	.....	.....	Long	SW	Cloudy.....	
Despatch, Constantinople, Turkey	30.06‡	763.5‡	.....	.....	47	8.3	85	NE	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Essex, S. 45° 46′, W. 57° 11′.....	29.87	758.7	62	16.7	59	15.0	100	NE	.....	.....	1	.....	1	.....	NE	.....	.....	Long	SW	Clear.....	
Franklin, Norfolk, Va.....	30.42	772.6	58	14.4	30	— 1.1	78	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Gettysburg, Genoa, Italy	30.07‡	763.8‡	.....	.....	59	15.0	100	SE	.....	.....	3	.....	8	.....	SE	Blank	Blank	.....	.....	Cloudy.....	
Hartford, Montevideo, Uruguay...	29.99	761.7	72	22.2	73	22.8	67	NNW	.....	.....	4	.....	8	.....	.....	0	0	Smooth	.....	Cloudy	
Lackawana, Panama.....*...	29.71‡	754.6‡	.....	.....	78	25.6	91	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....†	30.12	765.0	.....	.....	28	— 2.2	88	SW	.....	.....	4	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Monocacy, Shanghai, China.....*	30.54‡	775.7‡	.....	.....	33	0.6	89	NW	.....	.....	2	.....	10	.....	NW	.....	.....	.....	.....	Cloudy	
Monongehela, Yokohama, Japan ....*..	30.18‡	766.6‡	.....	.....	32	0.0	100	NNW	.....	.....	2	.....	4	.....	N	0	0	.....	.....	D. clouds....	
New Hampshire, Port Royal, S. C.....	30.40	772.1	45	7.2	40	4.4	??	NNW	16	7.2	.....	.....	2	.....	SW	0.16	4.1	.....	.....	Clear.....	
Onward, Callao, Peru.....†	30.02	762.5	.....	.....	70	21.1	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.44	773.2	36	— 2.2	25	— 3.9	87	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	30	— 1.1	78	W	.....	.....	2	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Pensacola, S. 15° 05′, W. 98° 00′.....	30.00‡	762.0‡	.....	.....	72	22.2	75	E	6	2.7	.....	.....	10	.....	E	0	0	Long	E	Cloudy.....	
Powhatan, San Juan, Porto Rico.....	30.19	766.8	73	22.8	73	22.8	81	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	30.09‡	764.3‡	.....	.....	58	14.4	82	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy.....	
Ranger. Yokohama, Japan.....*	30.30‡	769.6‡	.....	.....	42	5.6	73	NNW	.....	.....	4	.....	5	.....	N	.....	.....	Mod'ate	.....	Clear.....	
Richmond, Gibraltar.....	30.17‡	766.3‡	.....	.....	66	18.9	74	S	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	30.20	767.1	61	16.1	57	13.4	94	NE	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md...	30.23‡	767.8‡	.....	.....	33	0.6	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....	Fair.....	
St. Louis, League Island, Pa	30.12	765.0	56	13.3	25	— 3.9	.....	SW	6	2.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Supply, N. 27° 30′, W. 21° 12′.	30.21‡	767.3‡	.....	.....	68	20.0	70	WSW	.....	.....	2–3	.....	2	.....	wsw	.....	.....	Smooth	.....	Clear.	
Trenton Villafranca, France *...	30.12‡	765.0‡	.....	.....	58	14.4	82	Calm	.....	.....	0	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Tuscarora, Isla Grande, Mexico.....	29.98‡	761.5‡	.....	.....	72	22.2	85	NE	.....	.....	2	.....	1	.....	NE	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.21‡	767.3‡	.....	.....	25	— 3.9	62	SE	20	8.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Wyoming, Smyrna, Turkey.....	30.11	764.8	63	17.2	59	15.0	88	W	.....	.....	3–4	.....	2	.....	W	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 25° 17′, W. 113° 08′...†		30.10‡	764.5‡	63	17.2	83	N			2		4		Calm	0	Small	N	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada, N. 24° 02′, W. 111° 40′...†*		30.22‡	767.6‡	63	17.2	??	NW			4		cs		NW	0	Light	WNW	Hazy	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 16° 20′, W. 171° 34′...*		29.90	759.4				N			5				NE		Mod'ate	NE	Hazy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is no known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			
S. S. Britannic, N. 51° 29′ W. 10° 55′...†*		29.83‡	750.0‡	52	11.1		SSE			4		2		S	0	Mod'ate	SSW	Fair	Capt. H. Perry.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 35′, E. 160° 48′...*		29.79‡	756.7‡	59	15.0	88	N			4		n		NW		Rough	Var.	Showery	J. A. Thompson, 3d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 10′, W. 9° 12′		29.10	739.1	52.2	11.2		SW			5		5		SW		5	W	Cloudy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 50° 34', W. 23° 35'...*		28.51‡	724.1‡	50	10.0	??	S			6		4		W	Blank	Heavy	W	Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 41° 25', W. 58° 46'...†		30.15‡	765.8‡	35	1.7	100	NNE			1		5		N	0	Mod'ate	N	Fine	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian, N 54° 00', W. 18° 19'		28.78‡	731.0‡	47	8.3		SSE			6		10s		SSE	Cross	NNE;E	Showery		Capt. W. Richardson.
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assd.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 10, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:38 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.28	769 1	63.7	17.6	.....	SW	.....	.....	1	.....	10	.....	.....	0	0	Covered	
Nemours	.....	.....	30.08	763.1	80.2	26.8	34	WNW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.90	759.4	75.2	24.0	33	SW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Touriliere.
La Calle	.....	.....	29.98	761.5	79.2	26.2	54	WSW	.....	.....	4	.....	10	.....	.....	0	0	Covered	Foufrede.
Tunis	.....	.....	30.08	763.9	72.0	22.2	49	W	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.18	766.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.06	763.5	73.8	23.2	12	SSW	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.16	765.8	70.3	21.3	20	NNW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.14	765.5	64.6	18.1	96	W	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugnlaux.
Laghouat	.....	.....	30.17	766.4	72.3	22.4	16	S	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.14	765.5	70.5	21.4	49	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.21	741.9	29.75	755.7	56.8	13.8	65	SW	.....	.....	6	.....	8	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.79	731.3	29.56	750.9	45.5	7.5	74	NNW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	28.85	732.0	29.76	755.9	37.4	3.0	93	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.35	720.1	29.60	751.8	48.2	9.0	70	SE	.....	.....	3	.....	5	.....	.....	0	0	.....	Andreas Rospini
Hermannstadt	28.45	722.6	29.01	759.7	44.6	7.0	78	SE	.....	.....	3	.....	5	.....	.....	0.022	0.55	.....	Prof. A. Gottschling.
Kremsmünster	28.15	715.0	29.50	749.4	39.9	4.4	85	ENE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.63	727.1	29.62	752.3	44.4	6.9	73	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.77	756.1	29.88	759.0	57.0	13.9	81	SSE	.....	.....	4	.....	9	.....	.....	0.039	1.0	.....	I.R.Hydrographic Office.
Szathmar	29.38	746.2	29.85	758.3	41.0	5.0	86	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.48	748.7	29.76	755.8	55.4	13.0	76	S	.....	.....	3	.....	4	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.78	756.5	29.89	759.1	49.8	9.9	96	Calm	.....	.....	0	.....	10	.....	.....	0.079	2.0	Rain & fog	P. Busin.
Vienna	28.90	734.1	29.64	752.8	36.0	2.2	96	SSE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	28.87	733.3	28.97	735.8	39.3	4.1	.....	NNW	4	1.8	.....	.....	0	.....	.....	0.090	2.29	Foggy	W. Boswell.
Ardrossan	28.86	733.0	28.87	733.3	41	5.0	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	William McNeil.
Armagh, Observatory	.....	.....	28.86	733.0	45.0	7.2	.....	E	1	0.4	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	28.83	732.3	44.4	6.9	.....	ESE	3	1.3	.....	.....	9	.....	.....	.....	.....	Misty	John Hartnup.
Bolton, (Sharples)	.....	.....	28.82	732.0	43.4	6.3	.....	SSW	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	28.46	722.9	28.86	733.0	45.5	7.5	.....	N	.....	.....	2	.....	10	.....	.....	0.04	1.0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	81.5	27.5	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	28.86	733.0	49.9	9.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	28.83	732.3	48.6	9.2	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	28.76	730.5	28.88	733.5	49.1	9.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Corpl. Daly, R. E.
Dartmoor	27.33	694.2	28.77	730.7	44.4	6.9	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling	Alexander Watt.
Donaghadee	28.82	732.0	28.87	733.3	42	5.6	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	28.91	734.3	28.93	734.8	46	7.8	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Squally	J. Costello.
Falmouth, Observatory	28.69	728.2	28.81	731.8	47.1	8.4	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Rain & fog	The Staff.
Fort Napier, (Natal)	27.67	700.3	28.88	733.5	84.0	28.9	.....	E	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Pvt. S Salmon, A.H.C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	84	28.9	.....	E	.....	.....	.....	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	28.76	730.5	47	8.3	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.95	760.7	30.00	762.0	62.9	17.2	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	Gloomy	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.70	729.0	28.91	734.3	39.9	4.4	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	28.90	734.0	28.91	734.3	46	7.8	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	28.71	729.2	28.88	733.5	49.6	9.8	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy
Guernsey	28.71	729.2	28.94	735.1	48.5	9.2	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S
Helston	28.80	731.5	28.92	734.6	50	10.0	.....	SW	.....	.....	2	.....	10n	.....	.....	0.18	4.6	Raining	M. P. Moyle.
Holyhead	28.77	730.7	28.88	733.5	45	7.2	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	28.69	728.7	28.98	736.1	48.8	9.3	.....	SW	.....	.....	6	.....	7	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	28.84	732.5	28.88	733.5	48.9	9.4	.....	SW	8	3.6	.....	.....	10	.....	.....	.....	.....	Raining	The Meteorological Of.
Leicester, Museum	28.62	726.9	28.87	733.3	45.5	7.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. [illegible] F.R.S.
Malta, (Mediterranean)	30.09	764.3	30.17	766.3	64	17.8	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckert, A. H. C.
Nairn	28.86	733.0	28.95	735.3	40	4.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	W. H. Penny.
Nassau, (Bahamas)	.....	.....	30.17	766.3	71.5	21.9	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	28.69	728.7	28.87	733.3	48.0	8.9	.....	SSW	.....	.....	1	.....	10k;d	.....	S	0.03?	0.8	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.34	719.6	28.85	732.8	44.9	7.2	.....	S	.....	.....	0-1	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	28.86	733.0	47	8.3	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	28.71	729.2	28.78	731.0	46.9	8.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Roche's Point	28.75	730.2	28.80	731.5	48	8.9	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	28.62	726.9	28.78	731.0	46	7.8	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.00	736.6	49.2	4.6	.....	E	15	6.7	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.05	763.3	52.6	11.4	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	28.58	725.9	28.86	733.0	47.9	8.8	.....	Calm	.....	.....	0	.....	10	.....	.....	0.03	0.8	Foggy	W. F. Cooper.
Silloth Rectory	28.83	732.3	28.86	733.0	43.4	6.3	90	SE	.....	.....	3	.....	10	.....	.....	0	0	Overcast	Francis Redford, A. M.
Stonyhurst Observatory	28.45	722.6	28.86	733.0	46.0	7.8	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Rev. S. J. Perry.
Stratfield Turgiss	28.69	728.7	28.90	734.0	48.0	8.9	.....	S	.....	.....	0-1	.....	10	.....	.....	.....	.....	Raining	[illegible] S.
Thurso	28.92	734.6	28.99	736.3	42	5.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty	John Trotter.
Truro, Royal Institution	.....	.....	28.87	733.3	50	10.0	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe
Valencia, Observatory	28.74	730.0	28.76	730.5	49.4	9.7	.....	SE	15	6.7	.....	.....	10	.....	.....	.....	.....	Misty	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Leith, Restalrig Park	.....	.....	28.95	735.3	38.0	3.3	.....	E	.....	.....	1	.....	10s	.....	.....	0.05	1.3	Foggy	Francis Abbott, F.R.A.S.
Mauritius, Observatory	.....	.....	29.94	760.5	80.5	26.9	64	E	14.5	6.5	.....	7	2	.....	E	0.03	0.8	Cloudy	Andrew Gibb.
Melbourne, Observatory	29.65	753.1	29.74	755.4	80.0	26.7	55	NNE	12	5.4	.....	.....	4	.....	.....	0	0	Sultry	C. Meldrum.
Monach L'thouse, (Hebrides)	.....	.....	28.97	735.8	44	6.7	.....	E	.....	.....	3	5	3	E	.....	Blank	Blank	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	29.16	740.7	41	5.0	.....	SSE	.....	.....	5	7	4	SE	.....	.....	.....	.....	J. Youngclause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	64.4	18.0	82	NE	.....	.....	1	.....	9cs	.....	E	0	0	Very cloudy	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.24	742.7	29.29	743.9	34.2	1.2	98	ESE	.....	.....	5	.....	10	.....	.....	.....	.....	Rain & fog.
Fanöe	29.05	737.8	29.07	738.3	34.7	1.5	100	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.
Godthaab, (Greenland)	29.52	749.9	29.57	751.0	8.8	—12.9	80	NNE	.....	.....	4	.....	1	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.10	739.0	29.13	739.9	38.8	3.8	90	S	.....	.....	2	.....	6	.....	.....	.....	.....	.....
Vestervig	28.97	735.8	29.14	740.1	33.4	0.8	100	E	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.71	729.2	29.26	743.2	52.5	11.4	90	SW	.....	.....	2	.....	8	W	W	0.51	13.	Very cloudy	Collignon, Director.
Amiens, Normal School	28.99	736.4	29.10	739.2	56.1	13.4	93	SW	.....	.....	3	.....	2	.....	E	0.268	6.8	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.55	750.6	29.63	752.6	61.3	16.3	58	SE	.....	.....	3	.....	8	.....	SSW	0	0	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	28.75	730.2	29.30	744.2	53.6	12.0	84	S	.....	.....	2	.....	10	.....	SW	0.039	1.0	Light rain	C. Saillard, Director.
Beauvais, Normal School	28.85	732.7	29.12	739.7	55.2	12.9	75	SSE	.....	.....	4	.....	8	.....	SW	0.581	14.75	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.59	726.2	29.46	748.3	59.9	15.5	54	SE	.....	.....	2	.....	10	.....	SW	0.193	4.9	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.62	727.0	29.52	749.8	56.7	13.7	68	S	.....	.....	2	.....	kn	S	S	0	0	.....	M. Marlot, Director.
Bourges, Normal School	28.72	729.6	29.26	743.2	58.6	14.8	75	SW	.....	.....	6	.....	5	SW	SW	0.098	2.5	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	28.73	729.7	28.97	735.9	51.1	10.6	93	SW	.....	.....	4	.....	6	.....	SW	0 463	11.60	Cloudy	M.de Rermaree, Director
Carcassonne, Normal School	29.23	742.4	29.64	752.9	58.6	14.8	82	E	.....	.....	3	.....	5	E	S	0	0	Cloudy	September, Director.
Caen, Normal School	28.96	735.6	29.04	737.5	55.4	13	68	SSW	.....	.....	3	.....	5	.....	NE	0.165	4.2	Cloudy	M. Lair, Director.
Chartres, Normal School	28.73	726.3	29.15	740.3	53.6	12	97	S	.....	.....	4	.....	6	.....	NNE	0.236	6.0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	28.95	735.4	29.26	743.2	57.0	13.9	69	S	.....	.....	3	.....	10	SW	SW	0.165	4.2	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.04	712.2	29.34	745.2	64.4	18.0	36	SW	.....	.....	3	.....	8	.....	SW	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	28.84	723.4	29.35	745.4	52.7	11.5	83	SW	.....	.....	3	.....	10km	.....	SW	0.102	2.6	Raining	Dr. Coulet, Director.
Commune de Grésque*	28.91	734.3	29.74	755.3	58.8	14.9	50	SE	.....	.....	3	.....	10	.....	SE	0	0	Covered	M. Kina, Director.
Grenoble, Normal School	28.80	731.6	29.56	750.8	60.1	15.6	50	S	.....	.....	5	.....	10n	.....	S	0	0	Covered.	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.10	739.2	29.32	744.6	53.6	12.0	72	SSW	.....	.....	5	.....	5	.....	SW	0.465	11.8	Cloudy	Mouillot, Director
Le Mans, Normal School	28.91	734.4	29.21	742.0	53.8	12.1	76	W	.....	.....	6	.....	8	WSW	W	0.28	7.	Very cloudy	Poirrier, Director
Lons-Le-Saulnier, N. School	28.56	725.5	29.47	748.6	57 0	13.9	54	S	.....	.....	6	.....	5	.....	W	0.028	0.70	Cloudy	Bandry, Director.
Lorient, Naval Observatory	29.04	737.5	29.13	740.0	50.7	10.4	84	SW	.....	.....	8	.....	.....	.....	SW	1.307	33.2	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director.
Mirecourt, Normal School	28.34	719.9	29.36	745.8	55.0	12.8	64	NNE	.....	.....	5	.....	n	.....	SW	0	0	.....	M. Barbier, Director.
Nismes Normal School	29.42	747.3	29.63	752.5	58.6	14.8	73	SE	.....	.....	3	.....	10	.....	NE	0	0	Covered	Boyer, Director.
Privas, Normal School	28.67	728.1	29.73	755.2	56.1	13.4	68	S	.....	.....	4	.....	10	N	S	.....	.....	Raining	M. Cautier, Director.
Puy de Dome (Summit) Obs	24.58	624.2	.....	.....	43.7	6.5	70	SW	.....	.....	7	.....	8	.....	.....	0	0	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.32	744.7	29.35	745.5	58.1	14.5	79	SSW	.....	.....	2	.....	5	W	W	0.08	2.	½ covered	Lt. Decante, Director.
Rouen, Normal School	28.99	736.3	29.07	738.4	55.6	13.1	64	S	.....	.....	4	.....	8	.....	SW	0.209	5.3	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.00	736.5	29.03	737.3	53.8	12.1	65	SW	.....	.....	7	.....	10	SW	SW	0.352	8.95	Raining	Lt. Herconet, Director.
Saint Maur, (near Paris)	29.03	737.3	29.19	741.5	55.4	13.0	64	SW	.....	.....	5	ck	.....	SSW	SW	0.193	4.9	Almost cov.	E. Renon, Director.
Tarbes, Normal School	28.65	727.7	29.52	749.7	46.4	8	43	SW	.....	.....	1	.....	2	W	WSW	0	0	Slightly cl'dy	T. Huguet, Director.
Versailles Observatory	28.69	728.6	29.18	741.2	55.0	12.8	.....	SW	.....	.....	4	.....	8	.....	.....	0.109	2.76	Very cloudy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.86	733.1	29.58	751.2	48.2	9.0	94	SE	.....	.....	2	.....	10	.....	SE	0.020	0.5	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.99	761.7	30.02	762.4	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	..	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.46	748.3	60.3	15.7	48	SSW	.....	.....	10	.....	10	.....	.....	0	0	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.51	762.5	29.82	757.5	42.8	6.0	80	S	.....	.....	10	.....	8	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.84	757.8	57.9	14.4	86	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	28.89	733.9	.....	.....	54.3	12.4	70	SW	.....	.....	8	.....	9	.....	WSW	0.173	4.4	.....	Marié Davy, Director.
Perpignan	29.43	747.4	29.53	750.1	57.2	14.0	78	SE	1.8	0.8	.....	.....	5	.....	WSW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Boylac.
Pic du Midi, (Plantade,) H. P.	22.01	559.0	.....	.....	32.4	0.2	.....	SW	.....	.....	9	.....	10	.....	.....	0	0	Covered	Gen'l de Nansouty.
Toulouse, Observatory	28.80	731.5	29.51	749.5	56.5	13.6	82	SSE	.....	.....	3	.....	7	.....	W	0.067	1.7	.....	M. Mercadier Juiler.
Tours	29.07	738.3	29.26	743.3	50.1	13.4	62	SSW	.....	.....	6	.....	8	.....	.....	0.087	2.2	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.50	774.8	30.53	775.4	31.5	—0.3	76	NW	0.9	3.1	.....	.....	0	.....	.....	0	0	Clear	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grésque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.55	725.2	29.37	746.1	49.1	9.5	86	S			4		10	S		0.079	2.0	Raining	Prof. Dr. Hoh.
Berlin	29.16	740.7	29.33	745.0	49.8	9.9	92	SW			1		10			0.299	7.6		Prof. Arndt.
Breslau	28.97	735.9	29.50	749.2	48.4	9.1	68	S			3		10			0.035	0.90		Royal University Obs'y
Carlsruhe	28.91	734.4	29.32	744.8	56.8	13.8	77	S			1		9	SW		0.020	0.5	Light rain	Albert Senx.
Cassel	28.64	727.5	29.24	742.6	51.1	10.6	91	SE			5		10	SW		0.119	3.02	Raining	Dr. H. Möhl.
Crefeld	28.98	736.1	29.14	740.1	52.7	11.5	88	S			4		10			0.35	9.	Raining	Director Lose.
Emden					45.5	7.5	100	S			2		10			0.67	17.		Prof. Prestel.
Frankfort on the Main	28.97	735.8	29.34	745.2	51.4	10.8		SSW			1		10			0.201	5.1		Physical Society.
Friedrichshafen	28.04	712.3	29.39	746.6	51.8	11.0	89	S			1		8	SW		0.335	8.5	Raining	M. Wilhelm.
Hamburg	29.08	738.6	29.15	740.4	48.2	9.0	100	S			4		10n			0.445	11.3	Raining	Captain F. Hegemann.
Kiel	29.10	739.1	29.11	739.5	45.9	7.7	98	SE			1		10			0.431	10.90		Prof. G. Karsten.
Königsberg, (Prussia)	29.39	746.5	29.47	748.6	37.4	3.0	96	W			2		10			0.378	9.6		Prof. E Luther.
Köslin			29.32	744.7	41.9	5.5		SW			2		5			0	0		H. Müller.
Leipsic, Observatory	28.94	735.0	29.35	745.5	50.7	10.4	91	S			2		10			0.063	1.6	Raining	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.42	747.3	29.47	748.5	35.6	2.1	94	NE			1		10					Light fog	Skalweit.
Neufahrwasser	29.44	747.7	29.45	748.1	38.5	3.6	93	ENE			2		10			0.319	8.1		A. Lothes.
Posen	29.17	741.0	29.46	748.3	49.1	9.5	97	SW			1		10			0.008	0.2	Light rain	Dr. Magener.
Strassburg (in Alsace)	28.83	732.3	29.37	745.9	56.7	13.7	69	S			2		10	SW		0.017	0.43	Raining	Imp. University Observatory.
Stuttgart	28.45	722.6	29.36	745.7	56.3	13.5	54	SW			1		9	W		0.059	1.5	Raining	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.94	709.8	29.43	747.4	51.6	10.9	61	S	18	8			10		W	0	0		Dr. Van Bebber
Wustrow, Naval School	29.19	741.4	29.21	742.0	37.9	3.3	100	SE			2		10			0.165	4.2	Raining	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.70	754.3	30.09	764.2	61.2	16.2		SW			1.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.96	761.0	30.01	762.3	70.5	21.4	23	WNW	19	8.5			2			0	0	D. clouds	
Deesa	29.48	748.7	29.96	761.0	72.7	22.6	21	WNW					0			0	0	Blue sky	
Bombay	29.92	760.1	29.96	761.1	74.3	23.5	55	NW	16	7.2			8	NW		0	0	D. clouds	
Poonah	27.96	710.1	29.95	760.8	82.2	27.9		ENE					0			0	0	Blue sky	
Lahore	29.25	742.8	30.02	762.4	65.6	18.7	23	NW	1.4	0.6			0			0	0	Blue sky	
Belgaum	27.39	695.7	29.92	760.0	77.8	25.4	44	W	3	1.3			2			0	0	D. clouds	
Roorkee	29.02	737.1	29.95	760.6	68.8	20.4	23	SW	2	0.9						0	0	Blue sky	
Agra	29.46	748.4	30.04	763.1	71.7	22.1	50	N								0	0		
Nagpur	28.85	732.8	29.89	759.3	80.9	27.2	27	Calm	5	2.2			0			0	0	Blue sky	
Lucknow	29.52	749.7	29.90	759.4	70.3	21.3	53	E	1.2	0.5						0	0	Blue sky	
Allahabad	29.59	751.5	29.90	759.6	71.7	22.1	70	E	3.3	1.5			2		W	0	0	D. clouds	
Patna	29.86	758.5	30.05	763.2	68.9	20.5	73	E	2.6	1.2			8	E	E	0.97	24.6	Lightning	
Hazaribagh	27.95	710.0	30.01	762.3	68.8	20.4	49	E	13.8	6.2			1			0.08	2.0	Showery	
Cuttack	29.90	759.6	29.99	761.7	80.0	26.7	43	SSE	2.7	1.2			0			0	0	Blue sky	
Calcutta (Alipore)	30.01	762.8	30.04	762.9	74.8	23.8	63	ESE	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.70	754.2	30.10	764.5	60.3	15.7	93	NE	1.7	0.8			8	SW		0.13	3.3	D. clouds	
Chittagong	29.94	760.4	30.03	762.8	74.1	23.4	89	WSW	5.2	2.3			0			0	0	Misty	
Sibsagar	29.78	756.3	30.13	765.3	58.9	14.9	96	NE	0.8	0.4			10	SW	SW	0.15	3.8	Overcast	
Jubbulpore	28.60	726.3	29.99	761.6	72.9	22.7	40	NW	3.7	1.6			1			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,862.4 feet, or 606.3 meters; Nagpur, 1,026 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,561 ft., or 411.5 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.48	748.8	29.90	759.5	46.4	8.0	90	Calm	0	0	.....	.....	10	.....	.....	0.024	0.6	.....	Prof. Giovanni Cloding.
Padua	29.76	755.9	29.87	758.7	49.1	9.5	80	N	0.7	0.3	.....	.....	10	W	.....	0.028	0.7	.....	Prof. Dott. Lorenzoni
Milan	29.32	744.7	29.85	758.2	45.1	7.3	96	E	.....	.....	1	.....	10	.....	.....	0.791	20.1	.....	Prof. Schiaparelli.
Moncalieri	28.93	734.7	29.85	758.3	44.2	6.8	95	NNE	1.3	0.6	.....	.....	10	.....	.....	0.047	1.2	.....	Prof. P. F. Denza.
Mondovi	27.93	709.3	29.87	758.8	42.1	5.6	88	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.67	753.5	29.86	758.4	55.2	12.9	89	SE	12.8	5.8	.....	.....	10	SW	.....	0.303	7.7	.....	Prof. G. M. Garibaldi.
Florence	29.64	752.8	29.90	759.4	59.0	15.0	63	S	.....	.....	4	.....	10	.....	.....	0	0	.....	Cav. F. Meucci
Leghorn	30.21	767.3	29.90	759.5	58.3	14.6	70	S	17.2	7.8	.....	.....	10	S	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.84	757.9	29.88	759.0	58.5	14.7	69	SE	7.4	3.3	.....	.....	10	S	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.84	757.9	30.02	762.4	58.8	14.9	76	S	16.8	7.5	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.80	757.0	30.06	763.5	58.5	14.7	71	WNW	2.5	1.1	.....	.....	6	.....	.....	0	0	.....	Prof. O. De Giorgi.
Cagliari	29.77	756.2	29.97	761.1	63.1	17.3	65	Calm	0	0	.....	.....	8	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	741.0	30.07	763.7	59.7	15.4	75	SW	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.84	758 0	30.10	764.5	58.8	14.9	71	NE	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.02	762.4	30.09	764.3	58.1	14.5	83	ENE	3.8	1.7	.....	.....	8	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.53	750.1	30.09	764.2	56.8	13.8	77	WSW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.19	766.8	30.21	767.3	36.7	2.6	76	N	10.4	4.6	.....	.....	3ck	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.27	768.8	37.0	2.8	88	Calm	0	0	.....	.....	1ck;1k	.....	.....	0.020	0.51	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.11	764.8	30.18	766.6	34.6	1.4	72	ESE	4.4	2.0	.....	1ck;cs	1ks	W	W	0	0	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.6	30.38	771.6	40.1	4.5	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.51	622.6	30.18	766.6	52.5	11.4	70	SE	.....	.....	2	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.10	586.7	30.22	767.6	47.7	8.7	66	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	46.0	7.8	64	Calm	.....	.....	0	1c	1s	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.05	763.3	30.06	763.6	68	20	95	SW	.....	.....	2	1	4	S	SW	0.008	0.2	⅛ clouded	M. M. Cházaro.
San Luis Potosi	24.21	614.9	30.38	769.0	42.0	5.6	35	SE	.....	.....	.....	2	0	W	.....	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	30.06	763.5	30.08	764.2	69.8	21 0	91	Calm	0	0	.....	2ck	3ks	.....	S	Inap.	Inap	⅛ clouded	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.48	596.3	30.24	768.2	41.5	5.3	85	ESE	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.45	722.7	30.13	765.2	71.6	22.0	60	ENE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.02	762 4	30.15	765.8	70	21.1	.....	Calm	.....	.....	0	.....	.....	.....	.....	0.126	3.2	Misty	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,550.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 582 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.46	748.3	29.46	748.3	49.3	9.6	.....	SW	.....	.....	.....	.....	.....	.....	.....	0.217	5.5	.....	
Groningen	29.00	736.6	29.06	738.0	49.1	9.5	.....	S	.....	.....	3	.....	.....	.....	.....	0.386	9.8	.....	
Helder	28.96	735.5	28.96	735.5	48.4	9.1	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.807	20.5	.....	
Hellevoetsluis	29.01	736.9	29.01	736.9	49.5	9.7	97	S	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.01	736.8	29.06	738.0	51.1	10.6	94	S	.....	.....	4	.....	10	.....	.....	0.475	11.6	Dull	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.21	742.0	29.27	743.4	37.0	2.8	86	W	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.50	749.4	29.54	750.4	16.5	— 8.6	64	SE	1.8	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.41	747.1	29.57	751.1	16.3	— 8.7	73	NE	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.71	754.6	29.75	755.7	15.4	— 9.2	38	S	20	9	.....	.....	2	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.63	752.7	29.53	757.7	51.1	10.6	80	WNW	34.2	15.3	.....	.....	4	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	28.80	731.5	29.84	757.8	55 8	13.2	90	SSW	11.9	5.3	.....	.....	10	SW	.....	0.744	18.9	Light rain...	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.02	762.6	30.11	764.8	68.7	20.4	56	W	15.0	6.7	.....	.....	7	.....	.....	0.102	2.6	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.43	747.6	29.86	758.8	57.2	14.0	93	SW	24.8	11.1	.....	.....	10	.....	.....	0.776	19.7	.....	The Staff.
Ponta Delgada, (Azores)	29.86	758.5	29.93	760.3	58.3	14.6	58	W	29.8	13.3	.....	.....	4	.....	.....	0.224	5.7	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from —			
Bartholomew Dias	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t
D. Fernando	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	29.91	759.6	85.1	29.5	WSW	.....	.....	2	.....	1	WSW	.....	1	.....	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S.C. da Silva Costa. N. 11° 43', W. 15° 49'	29.95	760.8	79.5	26.4	.....	WSW	.....	.....	3	.....	6	.....	SW	2	SW	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	29.83	757.6	82.8	28.2	.....	W	.....	.....	2	.....	6	.....	.....	1	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	30.32	770.2	55.8	13.2	.....	N	.....	.....	3	.....	0	.....	.....	0	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.09	738 8	29.51	749.6	43.5	6.4	83	S	7	3	.....	.....	9ck;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.03	737.4	29.46	748.2	38.7	3.7	100	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.22	742.2	29.47	748.5	30.2	— 1.0	88	WSW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.41	747.1	29.43	747.5	28.8	— 1.8	94	E	7	3	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Kieff	29.02	737.2	29.68	753.8	35.6	2.0	93	WSW	9	4	.....	.....	10n;ks	.....	.....	.....	.....	Raining	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	34.9	1.6	96	SSW	13	6	.....	.....	10n	.....	.....	.....	.....	Misty	Kurdakof.
Kertch	30.02	762.4	30.04	762.9	32.4	0.2	96	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.00	736.5	29.56	750.8	33.6	0.9	94	S	7	3	.....	.....	10s	.....	.....	.....	.....	Snowing	Meteorological Obs.
Lugan	29.65	753.1	29.86	758.5	32.0	0.0	90	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.87	758.6	29.89	759.1	—12.5	—24.7	70	NE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.52	724.4	29.94	760.4	53.4	11.9	57	NW	18	8	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.06	763.5	29.98	761.4	38.3	3.5	80	SE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	29.41	747.1	29.91	759.7	26.6	— 3.0	90	S	16	7	.....	.....	10	.....	.....	.....	.....	Snowing	Cand. Fatjanow.
Kasan	29.50	749.4	29.78	756.5	30.7	— 0.7	97	S	13	6	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Ekaterinburg	28.98	736.2	29.99	761.8	26.1	— 3.3	80	SW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.94	760.5	30.18	766.6	45.0	7.2	.....	ESE	4	2	.....	.....	1cs	.....	.....	.....	.....	.....	
Tashkend	28.72	729.6	30.55	775.9	29.5	— 1.4	76	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.92	759.9	30.46	773.8	12.0	—11.1	88	SW	9	4	.....	.....	10	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.82	757.4	30.14	765.6	— 0.4	—18.0	79	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.25	768.3	30.39	771.9	34.2	1.2	84	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.56	750.8	29.67	753.5	64.0	17.8	53	SW	2.2	0.97	.....	.....	5k	.....	.....	0	0	½ covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.45	747.9	29.50	749.3	61.9	16.6	62	W	3.6	1.63	.....	3	6	W	.....	0.075	1.9	Raining	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.65	676.9	.....	.....	51.3	10.7	74	SW	7.8	3.48	.....	.....	7	.....	.....	0.630	16.0	Cloudy	Domingo Martin y Perer.
Madrid, Royal Observatory	27.51	698.7	.....	.....	54.9	12.7	79	SW	30.6	13.67	.....	0	10	.....	.....	0.224	5.7	Stormy	The Staff.
Murcia, Met. Obs'y	29.69	754.0	29.84	757.8	68 0	20.0	68	S	6.2	2 78	.....	4	5	N	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.49	723.6	29.38	746.2	49 5	9.7	86	SW	26.2	11.7	.....	.....	9	.....	.....	2 713	68.9	Rainy	R. Gil Villanueva, Dir
Sub-Series.																			
Havana, Cuba, W. I.	30.08	764.0	30.14	765.6	70.1	21.2	89	E	5.1	2.3	.....	3ck	5k	E	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.93	760.2	29.98	761.6	79.2	26.2	73	N	0.7	0.3	.....	.....	1s?	.....	.....	0	0	Covered?	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760 6	30.05	763.1	61.9	16 6	90	SW	11.8	5.3	.....	0	10	.....	S	0.445	11.3	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	78.8	23.2	97	SW	0	0	.....	4cs	3k	S	S	0	0	D. clouds	Leonardo de Tejeda, Ch't. Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.3	29.85	758.3	— 0.4	—18.0	.....	E	.....	.....	4	.....	10	.....	.....	0.118	3.0	.....	
Umea	29.65	753.0	29.70	754.3	6.4	—14.2	92	N	.....	.....	4	.....	10	.....	.....	0.106	2.7	Snowing	
Hernosand	29.61	752.0	29.66	753.3	10.4	—12.0	70	NNE	.....	.....	5	.....	7	.....	.....	0.016	0.4	Snowing	
Stockholm	29.37	745.9	29.54	750 4	19.8	— 6 8	94	NNW	.....	.....	4	.....	10	.....	.....	0.020	0.5	.....	
Wisby	29.44	747.8	29.50	749.3	27.0	— 2.8	92	ENE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.46	748.2	29.53	750.1	18.7	— 7.4	86	NNW	11.4	5.1	.....	.....	10	NW	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.10	713.6	29.52	749.7	55.8	13.2	50	S	.....	.....	4	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	27.88	708.0	29.51	749.6	54.3	12.4	65	S	.....	.....	2	.....	8	.....	SW	0.850	21.6	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —13 mm.; Thermometer, +10.1 cent.; Relative Humidity, —23 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.10	764.4	49.6	9.8	72	S	3	1.5	.....	.....	7	.....	NE	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.09	764.2	59.2	15.1	.....	SW	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.78	756.4	29.90	759.4	59.0	15.0	79	SW	.....	.....	3	.....	10n	.....	SW	0.99	25.1	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.17	766.3	30.24	768.1	16.1	— 8.8	66	Calm	0	0	.....	.....	9n	.....	.....	0	0	Clearing	Hon. J. Ferguson.
Brockville, Ontario	30.20	767.1	30.56	776.2	— 5	—20.6	.....	Calm	0	0	.....	2c	0	SW	.....	0.10	2.5	Clear	W. R. Bigg.
*Chatham, N B	30.12	765.0	30.19	766.8	14	—10.0	91	N	9	4.0	.....	8ck	2ks	N	N	0.26	6.6	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.02	762 5	30.06	763.5	14	—10.0	87	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.30	769.6	30.53	775 4	—17.6	—27.5	100	NW	.....	.....	1	0	0	.....	.....	0.20	5.1	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	30.31	769.9	30.34	770.6	8	—13.3	70	NW	20	8.9	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	J. McWilliams.
Fredericton, N. B	30.18	766.6	30.25	768.3	14.8	— 9.6	76	NW	10	4.5	.....	.....	10n	.....	.....	0.04	1.0	Light snow	Prof. Harrison.
*Fort Garry Manitoba	29.12	739.6	30.05	763.3	— 6	—21.1	97	NW	12	5.4	.....	Haze	Haze	NW	NW	0	0	Hazy	James Stewart.
Granton, Ontario	29.13	739 9	30.33	770.4	15	— 9.4	.....	SE	.....	.....	2	.....	10n	.....	.....	Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S	29.86	758.4	30.01	762.2	15	— 9.4	89	N	9	4.0	.....	0	0	.....	.....	0.200	5.08	Clear	F. Allison, M. A.
Hamilton, Ontario	30.05	763.3	30.45	773.4	16.7	— 8.5	75	SW	.....	.....	1	10ck	0	SW	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.17	766.3	30.55	776.0	2	—16.7	83	E	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.87	758.7	29.91	759.7	20 2	— 6.6	96	NE	20	8.9	.....	0	0	.....	.....	0.200	5.08	Showery	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.32	770.1	30.55	776.0	— 3	—19.4	76	N	4	1.8	.....	0	0	.....	.....	0.17	4.3	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.58	751.3	30.34	770.6	9	—12.8	85	SE	16	7.2	.....	2cs	5ks	SW	SW	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.65	753.1	30.49	774.4	5.9	—14.5	69	S	.....	.....	.....	10n	.....	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	29.88	758.9	29.93	760.2	15.7	— 9.1	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.67	753 6	30.37	771.4	18	— 7.8	87	E	12	5.4	.....	2ck	5ks	W	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	30.08	764.0	30.45	773.4	— 3	—19.4	66	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	30.03	762 8	30.08	764.0	30	— 1.1	87	SW	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.96	761.0	30.14	765.5	15	— 9.4	82	NW	15	6.7	.....	0	9ck	.....	.....	0.30	7.6	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	29.54	750.3	30.31	769.9	18	— 7.8	88	SE	16	7.2	.....	.....	10ks	.....	.....	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario	29.51	749.5	30.36	771.1	14	—10.0	83	SE	15	6.7	.....	.....	10ks	.....	W	0.16	4.1	Cloudy	R. J. Cole.
Stratford, Ontario	28.95	735.3	30.34	770.6	13.0	—10.6	93	SE	13.0	5.8	.....	3cs	5s	W	.....	0.05	1.3	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.87	758.7	29.91	759.7	19	— 7.2	88	N	17	7.6	.....	.....	10n	.....	.....	Inap	Inap.	Light snow	T. C. Hill.
*Toronto, Ontario	30.02	762 5	30.44	773.2	20	— 6.7	86	SE	14	6.3	.....	.....	10ks	.....	S	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.95	760.7	30.05	763 3	17	— 8.3	92	N	5	2.2	.....	3cs	0	.....	.....	0.01	0.3	Fair	Prof. John E Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	15.0	— 9.4	82	S	.....	.....	.....	.....	10n	.....	.....	0	0	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.31	769.9	30.57	776.5	4	—15.6	74	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Alpena, Michigan	29.45	748.0	30.14	765.5	22	— 5.6	72	S	32	14.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.19	741.4	30.40	772.1	40	4.4	56	NE	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.59	777.0	30.61	777.5	21	— 6.1	57	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.26	768 6	30.44	773.2	35	1.7	70	Calm	0	0	.....	2ck	2s;fg	N	Calm	0	0	Fair	
Baltimore, Maryland	30.54	775.7	30.59	777.0	25	— 3.9	75	N	5	2.2	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.54	775.7	30.56	776.2	21	— 6.1	71	NW	9	4.0	.....	2cs	0	Calm	.....	0	0	Clear	
Bismarck, Dakota	28.12	714.2	29.98	761.5	2	—16.7	100	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.55	725.2	29.85	758.2	54	12.2	100	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	26.98	685.3	29 94	760.5	36	2.2	90	S	4	1.8	.....	0	8s	.....	SW	0.07	1.8	Fair	
Boston, Massachusetts	30.23	768.4	30.46	773.7	10	—12.2	58	NW	14	6.3	.....	1c	0	NW	.....	0.05	1.3	Clear	
Brackettville, Texas	28.89	733.8	29.93	760.2	54	12.2	93	S	3	1.3	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Breckenridge, Minnesota	28.84	732.5	29.91	759.7	8	—13.3	89	N	20	8.9	.....	10cs	0	NW	.....	0	0	Cloudy	
Brownsville, Texas	29.98	761.5	30.04	763 0	62	16.7	94	SE	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Buffalo, New York	29.66	753.4	30.44	773.2	11.5	—11.4	90	E	5	2.2	.....	8ckpcs	Haze	NW	Calm	0.02	0.5	Fair	
Burkes, Arizona	.....	.....	.....	.....	43	6.1	21	S	.....	.....	1	5c	0	E	.....	0	0	Fair	
Burlington, Vermont	30.25	768.3	30.58	776.7	0	—17.8	70	N	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cairo, Illinois	29.80	756.9	30.20	767.1	47	8.3	48	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.31	642.9	30.11	764.8	40	4.4	39	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	33	0.6	32	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.61	701.3	30.18	766.6	48	8.9	100	SW	4	1.8	.....	.....	Fog	.....	SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.55	776.0	30.56	776.2	39	3.9	73	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.53	775.4	30.55	776.0	31	— 0.6	79	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.52	775.2	30.53	775.4	38	3.3	81	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.54	775.4	30.58	776.7	24	— 4.4	74	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.24	742.7	29.95	760.7	55	12.8	93	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	30.30	769.6	30.37	771 4	44	6.7	68	NE	8	3.6	.....	10cs	0	W	.....	0	0	Fair	
Cheyenne, Wyoming	23.73	604.0	29.72	754 9	35	1.7	43	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.32	744.7	30.03	762.8	40	4.4	39	S	12	5.4	.....	10ck	0	W	.....	0	0	Cloudy	
Cincinnati, Ohio	29.03	762.6	30.31	769.9	34	1.1	74	SE	4	1.8	.....	7k	Sm'e	SW	Calm	0	0	Fair	
Cleveland, Ohio	29.56	750.8	30.34	770.6	29	— 6.7	70	SE	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.16	715.3	29.80	756.9	55	12.8	81	SE	14	6.3	.....	0	8s	.....	W	0	0	Fair	
Columbus, Ohio	29.43	747.5	30.31	769.9	29	— 1.7	78	SE	5	2.2	.....	5cs	Sm'e	Calm	Calm	0	0	Fair	
Corpus Christi, Texas	28.02	711.7	29.68	753.9	54	12.2	79	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.53	750.0	30.00	762.0	53	11.7	80	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.30	744.2	29.95	760.7	40	4.4	65	S	15	6.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Deadwood, Dakota	25.10	637.5	.....	.....	16	— 8.9	83	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.71	729 2	29.87	758.7	53	11.7	93	S	16	7.2	.....	0	5s	.....	SW	0	0	Fair	
Denison, Texas	29.14	740.1	29.93	760.2	51	10.6	79	S	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
Denver, Colorado	24.55	623.6	29.77	756.1	35	1.7	70	S	8	3.6	.....	2c	0	SW	.....	0	0	Fair	
Des Moines, Iowa	28.92	734.6	29.80	756.9	43	6.1	59	SW	11	4.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Detroit, Michigan	29.54	750.3	30.25	768.3	26	— 3.3	63	SE	8	3.6	.....	10cs	0	Calm	.....	0	0	Cloudy	
Dodge City, Kansas	27.13	689.1	29.44	747.8	33	0.6	89	NW	8	3.6	.....	5c	5s	NW	Calm	0	0	Fair	
Dubuque, Iowa	29.23	742.4	29.94	760.5	36	2.2	90	S	4	1.8	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Duluth, Minnesota	29.12	739.6	29.82	757.4	20	— 6.7	85	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Eagle Pass, Texas	29.24	742.2	29.06	761.0	57	13.9	94	SE	.....	.....	1	.....	10n	.....	Calm	0.01	0.3	Light rain	
Eastport, Maine	30.14	765.5	30.21	767.3	15	— 9.4	82	NW	24	10.7	.....	2k	0	NW	.....	0.15	3.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	63	17.2	94	S	.....	.....	1	.....	10s	.....	S	Inap.	Inap.	Cloudy	
El Paso, Texas	26.30	668.0	.....	.....	37	2 8	61	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.58	751.3	30.35	770.9	19	— 7.2	69	S	25	11.2	.....	2ck	0	W	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.22	742.2	29.89	759.2	30	— 1.1	89	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Florence, Arizona	28 66	728.0	30.26	768.6	40	4.4	73	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.96	710.2	.....	.....	— 2	—18.9	67	NE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	
Fort Craig, New Mexico	25.54	648.7	29.60	751.8	28	— 2.2	88	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.16	639.0	30.12	765.0	49	9.4	42	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.35	745.5	29.89	759.2	46	7.8	69	S	12	5.4	.....	.....	10n	.....	S	0.04	1.0	Light rain	
Fort Griffin, Texas	28.60	726.4	29.86	758.4	53	11.7	80	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.27	692.6	.....	.....	17	— 8.3	83	N	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort McKavett, Texas	27.73	704.3	29.64	752.8	55	12.8	81	SW	16	7.2	.....	.....	10ks	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.59	751.6	29.70	754.4	46	7.8	84	S	12	5.4	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.12	739.6	.....	.....	— 1	—18.3	84	NW	.....	.....	4	.....	8s	.....	Calm	0	0	Cloudy	
Fredericksburg, Texas	28.23	717.0	29.77	756.1	58	14.4	83	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.06	763.5	30.10	764.5	58	14.4	94	SE	8	3.6	.....	0	8s	.....	SE	0	0	Cloudy	
Graham, Texas	28.60	731 5	29.83	757.7	56	13.5	81	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.37	746.0	30.04	763.0	37	2.8	63	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Indianapolis, Indiana	29.38	746.2	30.19	766.8	36	2.2	61	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.05	763.3	30.05	764.0	67	13.9	94	S	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Jacksboro, Texas	28.72	729.5	29.84	757.9	52	11.1	86	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.32	770.1	30.34	770.6	51	10.6	72	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.29	744.0	29.92	760.0	43	6.1	59	S	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
Key West, Florida	30.16	766.1	30.19	766.8	63	17.2	89	NE	15	6.7	.....	1c	5s;fog	Calm	NE	0	0	Fair	
Kittyhawk North Carolina	30.54	775.7	30.57	776.5	36	2.2	71	NE	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.36	745.7	30.43	772.9	32	0.0	79	NE	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
La Crosse, Wisconsin	29.00	738 1	29.79	756.7	42	5.6	74	S	12	5.4	.....	.....	10s	.....	SW	0	0	Cloudy	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	45	7.2	68	NE	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Laredo, Texas	29.61	752.1	29.95	760.7	60	15.6	94	SE	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Leavenworth, Kansas	28.97	735.8	29.81	757.2	45	7.2	53	S	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.87	758.7	30.21	767.3	53.0	11.7	93	NE	4	1.8	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Louisville, Kentucky	29.67	753.6	30.25	768 3	38	3.3	63	SE	6	2.7	.....	.....	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.83	757.7	30.58	776.7	27	— 2.8	77	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.90	734.0	29.90	759.4	39	3.9	64	S	23	10.3	.....	.....	10ks	.....	W	0	0	Cloudy	
Marquette, Michigan	29.10	739.1	29.82	757.4	30	— 1.1	78	SW	20	8.9	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Mason, Texas	28.32	719.3	30.07	763.8	56	13.3	87	W	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Memphis, Tennessee	29.86	758.4	30.19	766.8	46	7.8	61	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.22	742.2	29.97	761.2	37	2.8	81	S	15	6.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Mobile, Alabama	30.26	768.6	30.30	769.6	47	8.3	85	S	6	2.7	.....	2k	8s	W	W	0	0	Cloudy	
Montgomery, Alabama	30.12	765.0	30.37	771.4	42	5.6	74	SE	3	1.3	.....	0	9s	.....	W	0	0	Cloudy	
Morgantown, West Virginia	29.30	744.2	30.42	772.6	35	1.7	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.50	596.9	29.86	758.4	—10	—23.8	54	NW	59	26.4	.....	2cs	0	Calm	.....	0	0	Clear	
Nashville, Tennessee	29.73	755.1	30.29	769.4	37	2.8	71	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	30.44	773.2	30.56	776.2	18	— 7.8	83	NW	14	6.3	.....	2c	0	Calm	.....	Inap.	Inap.	Clear	
New London, Connecticut	30.48	774.2	30.53	775.4	15	— 9.4	60	NW	11	4.9	.....	1c	0	N	.....	0.01	0.3	Clear	
New Orleans, Louisiana	30.19	766.8	30.25	768.3	51	10.6	79	E	4	1.8	.....	10cs	Sm'e	S	Calm	0	0	Cloudy	
Newport, Rhode Island	30.44	773.2	30.50	774.7	17	— 8.3	67	W	12	5.4	.....	0	0	.....	.....	0.03	0.8	Clear	
New York, New York	30.40	772.1	30.59	777.0	19	— 7.2	69	NW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.51	774.9	30.58	776.7	31	— 0.6	69	NE	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.81	681.0	29.45	748.0	25	— 3.9	75	NE	8	3.6	.....	2c	0	NW	.....	0	0	Clear	
Olympia, Washington Ter.	29.67	753.6	29.71	754.6	35.8	1.8	90	S	6	2.7	.....	.....	10n	.....	Calm	0.72	18.3	Light rain	
Omaha, Nebraska	28.59	726.2	29.08	753.9	43	6.1	83	S	14	6.3	.....	.....	10n	.....	Calm	0.05	1.3	Light rain	
Oswego, New York	30.18	766 6	30.58	776.7	16	— 8.9	83	SE	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Pembina, Dakota	29.09	738.9	30.02	762.5	— 4	—20.0	100	NW	14	6.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Philadelphia, Pa	30.54	775.7	30.60	777.2	23	— 5.0	73	NW	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.98	736 1	30.85	783.6	46	7.8	69	E	.....	.....	2	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.43	442.6	29.04	752.8	3	—16.1	46	NW	40	17.9	.....	8cs	0	NW	..	0.03	0.8	Fair	
Ploche, Nevada	24.03	610.4	29.80	756.9	30	— 1.1	89	SW	8	3.6	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
Pittsburg, Pennsylvania	29.56	750.8	30.45	773.4	18	— 7.8	84	E	4	1.8	.....	.....	Sm'e	.....	E	0	0	Smoky	
Port Huron, Michigan	29.53	750.0	30.25	768 3	21	— 6.1	86	S	16	7.2	.....	0	2s	.....	S	0	0	Clear	
Portland, Maine	30.38	771.6	30.43	772.9	15	— 9.4	65	NW	4	1.8	.....	0	Haze	.....	.....	0.05	1.3	Clear	
Portland, Oregon	29.83	757.7	29.93	760.2	38.5	3.6	87	SW	8	3.6	.....	.....	9n	.....	SW	0.54	13.7	Light rain	
Prescott, Arizona	24.71	627.6	30.15	765.8	37	2.8	71	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.04	737.6	29.88	758.9	46	7.8	76	SE	10	4.5	.....	5k	5s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.23	767.8	30.24	768.1	54	12.2	87	NE	8	3.6	.....	2c	0	W	.....	0	0	Clear	
Red Bluff, California	29.72	754.9	30.08	764.0	49	9.4	85	SE	24	10.7	.....	1c	2ks	W	Calm	0.83	21.1	Fair	
Rio Grande City, Texas	29.87	758 7	30.09	764.3	63	17.2	94	SE	10	4.5	.....	.....	10s	.....	SE	0.02	0.5	Cloudy	
Rochester, New York	29.83	757.7	30.52	775.2	9	—12.8	78	SE	5	2.2	.....	1ck	Haze	Calm	Calm	0.12	3.0	Clear	
Roseburg, Oregon	29.45	748 0	30.03	762.8	40.0	4.4	96	S	3	1.3	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Sacramento, California	30.10	764.5	30.18	766.6	49	9.4	93	S	6	2.7	.....	.....	10s	.....	SE	0.55	14.0	Cloudy	
St. Louis, Missouri	29.50	749.3	30.08	764 0	42	5.6	68	SE	14	6.3	.....	.....	10s	.....	S	0	0	Cloudy	
St. Marks, Florida	30.31	769.9	30.33	770.4	43	6.1	67	NE	6	2.7	.....	1c	1s	Calm	Calm	0	0	Clear	
St. Paul, Minnesota	28.86	733.0	29.71	754.6	30	— 1.1	89	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.53	648.4	29.86	758.4	40	4 4	65	SE	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
San Antonio, Texas	29.34	745.2	29.93	760.2	54	12.2	93	Calm	0	0	.....	.....	10s	.. ....	Calm	Inap.	Inap.	Cloudy	
San Diego, California	30.17	766.3	30.21	768.1	53	11.7	90	NE	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy	
Sandusky, Ohio	29.59	751.6	30.30	769.6	29	— 1.7	89	S	12	5.4	.....	8cs	2s	Calm	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.54	775.7	30.57	776.5	20	— 6.7	86	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.13	765.3	30.20	767.1	52.5	11.4	79	SW	4	1.8	.....	5k	Fog	W	Calm	0.87	22.1	Fair	
Santa Fé, New Mexico	23.20	589.3	29.74	755.4	32	0.0	79	NW	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Savannah, Georgia	30.31	769.9	30.41	772.4	41	5.0	82	NE	2	0.9	.....	2ck	0	Calm	.....	0	0	Fair	
Shreveport, Louisiana	29.87	758.7	30.09	764.3	48	8.9	93	S	6	2.7	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Silver City, New Mexico	24.34	618.2	30.05	778.5	37	2.8	54	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.47	773.9	30.51	774.9	44	6.7	68	NE	12	5.4	.....	2c	0	NW	.....	0	0	Fair	
Springfield, Massachusetts	30.42	772.6	30.57	776.5	15	— 9.4	48	W	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Stockton, Texas	26.98	685.0	29.93	760.2	44	6.7	76	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.36	771.1	30 42	772.6	13	—10 6	44	NW	20	8.9	.....	5c	0	NW	.....	Inap.	Inap.	Fair	
Toledo, Ohio	29.51	749.5	30.24	768.1	29	— 1.7	78	S	10	4.5	.....	2cs	0	Calm	.....	0	0	Clear	
Tucson, Arizona	27.70	703.6	30.25	768.3	39	3.9	47	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.38	771.6	30.41	772.4	49	9.4	86	E	17	7.6	.....	2ck	0	W	.....	0	0	Fair	
Umatilla, Oregon	29.50	749.3	30.00	762.0	34.0	1.1	79	W	12	5.4	.....	0	5ks	.....	W	0	0	Fair	
Unalashka, Aleutian Islands	.....	.....	....	.....	34	1.1	79	SE	.....	.....	4	0	1s	.....	SE	0	0	Clear	
Uvalde, Texas	29.14	740.1	29.96	761.0	57	13.9	87	S	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Vicksburg, Mississippi	29.96	761.0	30.23	767.8	49	9.4	68	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	23.90	607.0	29.38	746.2	18	— 7.8	68	W	12	5.4	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy	
Visalia, California	29.84	757.9	30.22	767.6	50	10.0	93	S	3	1.3	.....	2c	2s	Calm	Calm	0.24	6 1	Fair	
Washington, D. C.	30.46	773 7	30.58	776.7	24	— 4.4	54	NE	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	36	2.2	73	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.43	772.9	30.52	775.2	36	2.2	70	NE	7	3.1	.....	1cs	0	Calm	.....	0	0	Clear	
Winnemucca, Nevada	25.57	649.6	29.93	760.2	39	3.9	65	SW	12	5.4	.....	10k	0	SW	.....	Inap.	Inap.	Cloudy	
Wood's Holl, Mass	30.40	772.1	30.44	772.9	15	— 9.4	65	NW	26	11.6	.....	8cs	0	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.43	722.1	29.75	755.6	28	— 2.2	77	NW	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.97	761.2	30.14	765.5	48	8.9	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.36	720.3	29.78	756.4	46	7.8	89	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.10	764.5	30.15	765.8	71	21.7	85	E	1.2	0.5	.....	0	8n	.....	E	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.99	761.7	30.07	763.8	77	25.0	.....	NE	13	5.8	.....	.....	.....	.....	.....	0.04	1.0	Raining	F. M Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	77	25.0	91	E	.....	.....	3	.....	8ks	.....	.....	0.240	6.10	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.27	768.8	30.32	770.1	—41.7	—40.8	.....	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	I. Fortescue & W. Wood.
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NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches: Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.38 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12	765.0	50	10.0	49	9.4	85	SW	12	5.4	.....	.....	8	.....	SW	0.41	10.4	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	54	12.2	87	E	20	8.9	.....	.....	8	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.40	772.1	55	12.8	11	—11.7	60	NW	3	1.3	.....	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.17‡	766.3‡	.....	.....	35	1.7	70	NW	.....	.....	1	.....	2ck;k	.....	W	0	0	.....	.....	Fair	
Adams. S. 0° 27′, W. 81° 12′.....	30.00	762.0	80	26.7	79	26.1	91	N	.....	.....	1	.....	5	.....	N	.....	.....	Smooth	.....	Fair	
Alaska, N. 23° 11′, W. 106° 30′.....	30.17	766.3	71	21.7	62	16.7	94	NW	.....	.....	3	.....	2	.....	S	0	0	Smooth	.....	Foggy.....	
Alliance, Villafranca, France.....	29.80‡	756.9‡	.....	.....	58	14.4	52	E	.....	.....	0–1	.....	10	.....	Calm	.....	.....	Long	S	Misty.....	
Ashuelot, N. 21° 11′, E. 111° 05′.....	30.36‡	771.1‡	.....	.....	54	12.2	80	NNE	.....	.....	4	.....	10	.....	Calm	.....	.....	Mod'ate	ENE	Cloudy.....	
Canonicus, New Orleans, La.....	30.20	767.1	41	5.0	47	8.3	92	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Colorado. New York, N. Y.....	30.46	773.7	20	— 6.7	20	— 6.7	100	WSW	15	6.7	.....	.....	8	.....	NW	0	0	.....	.....	Clear.....	
Constitution, N 49 12, W. 15° 25'.....	28.43	722.1	.....	.....	53	11.7	100	SSW	.....	.....	4	.....	9	.....	SSW	.....	.....	Mod'ate long	W	Rainy	
Despatch, Constantinople, Turkey	30.10‡	764.5‡	.....	.....	50	10.0	72	SSE	.....	.....	2	.....	5	.....	S	.....	.....	.....	.....	Fair	
Essex, S. 45° 13′, W. 57° 46′.....	29.71	754.6	60	15.6	58	14.4	100	NNW	.....	.....	4	.....	2	.....	NW	.....	.....	Smooth	.....	Fair	
Franklin, Norfolk, Va.....	30.69	779.5	34	1.1	33	0.6	70	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Gettysburg, Genoa, Italy	29.87‡	758.7‡	.....	.....	53	11.7	93	SSE	.....	.....	4	.....	10	.....	SSE	Blank	Blank	.....	.....	Overcast.....	
Hartford, Montevideo, Uruguay...	29.99	761.7	73	22.8	72	22.2	85	S	.....	.....	1	.....	8	.....	.....	0	0	Smooth	.....	Cloudy.....	
Lackawana, Panama.....*...	29.76‡	755.9‡	.....	.....	78	25.6	91	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....†...	30.16	766.1	.....	.....	17	— 8.3	83	S	.....	.....	6	.....	2	.....	S	.....	.....	.....	.....	Fair	
Monocacy. Shanghai, China.....*	30.53‡	775 4‡	.....	.....	33	0.6	65	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongchela, Yokohama, Japan ....*..	30.14‡	765.5‡	.....	.....	34	1.1	??	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	.....	D. clouds.....	
New Hampshire, Port Royal, S. C.....	30.32	770.1	40	4.4	44	6.7	52	ENE	14	6.3	.....	.....	10	.....	SW	0	0	.....	.....	Clear.....	
Onward, Callao, Peru..... ....†	30.02	762.5	.....	.....	70	21.1	95	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.39	771.9	39	3.9	29	— 1.7	56	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	25	— 3.9	75	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, S. 17° 35′, W. 99° 10′.....	30.02‡	762.5‡	.....	.....	72	22.2	80	ESE	15	6.7	.....	.....	10	.....	ESE	0	0	Smooth	ESE	Cloudy.....	
Powhatan, San Juan, Porto Rico.....	30.18	766.6	73	22.8	73	22.8	85	S	.....	.....	1	.....	5	....	.....	.....	.....	.....	.....	Fair.....	
Quinnebaug, Villafranca, France.....	29.81‡	757.2‡	.....	.....	57	13.9	87	NE	.....	.....	1	.....	10	.....	NE	.....	.....	Light ground	S	Cloudy.....	
Ranger. Yokohama, Japan.....*..	30.17‡	766.3‡	.....	.....	53	11.7	73	Calm	.....	.....	0	.....	8	.....	N	.....	.....	Smooth	.....	Clear	
Richmond, Gibraltar.....	30.06‡	763.5‡	.....	.....	65	18.3	73	WSW	.....	.....	5	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Rio Bravo, Brownsville, Texas.....	29.99	761.7	65	18.3	64	17.8	94	SE	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	30.68‡	776.7‡	.....	.....	27	— 2.8	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa.....	30.40	772.1	35	1.7	20	— 6.7	.....	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, N. 26° 28′, W. 21° 01′.....	30.27‡	768.8‡	.....	....	71	21.7	75	ENE	.....	.....	2–3	.....	8	.....	ENE	.....	.....	Long	NW	Cloudy.....	
Trenton Villafranca, France *...	29.82‡	757.4‡	.....	.....	58	14.4	94	SE	.....	.....	2	.....	10	.....	S;E	0	0	.....	.....	Cloudy.....	
Tuscarora. Isla Grande, Mexico.....	29.99‡	761.7‡	.....	....	72	22.2	80	N	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.....	30.49‡	774.4‡	.....	.....	11	—11.7	60	NW	8	3.6	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear... ...	
Wyoming, Smyrna, Turkey.....	30.16	766.1	69	20.6	59	15.0	76	NW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the last 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 22° 56′, W. 109° 12′ †.		30.10‡	764.5‡	67	19.4	84	N			4		0			0	Small	NNE	Blue sky	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada N. 27° 02′, W. 114° 38′..†*		30 25‡	768.3‡	60	15.6	??	NW			4		0			0	Mod'ate	NW	Clear.	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 12° 13′, W. 170° 04′...*		29.93	760.2				NNE			6				NE			NE	Foggy	R. C. Ghest, 1st Officer

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic, Off Great Orms Head, England†*		28.96‡	735.3‡	48	8.9		NE			2		2		E	0			Foggy	Capt. H. Perry.
S. S. Celtic																			Capt. H. Gleadell
S. S. Germanic																			Capt. [illegible] y.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer. N. 31° 35′, E. 156° 53′...*		29.94‡	760.5‡	60	15.6	71	ESE			3		ck		W		Mod'ate	NW	D. clouds...	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 03′, W. 15° 20′		28.44	722.4	56.8	13.8		S			3		10		SSW		5	SW	Misty	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 49° 17', W. 30° 49'...*		28.76‡	730.6‡	51	10.6	100	N			7		6		NW	Blank	Mod'ate	NE	Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 42° 25', W. 52° 20'...†		29.72‡	754.9‡	37	2.8	90	SE			5		10		SE	Blank	Mod'ate	SE	Light rain...	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; *for* Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 52° 45', W. 26° 01'		28.81‡	731.8‡	49	9.4		NNE			6		7k;s		NNE		Swell	SSW	Showery....	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters *c, k, s, n, d, f, p, hz., fg. and sm'e, are* generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

H. HILLYER PRINTING Co. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 11, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.32	770.2	63.3	17.4	.....	W	.....	.....	1	.....	10	.....	.....	0.039	1.0	Raining?	
Nemours	.....	.....	30.09	764.3	64.0	17.8	82	WNW	.....	.....	2	.....	10	.....	.....	0.071	1.8	Raining	Kesxuche.
Algiers	.....	.....	29.84	758.0	68.4	20.2	54	WSW	.....	.....	7	.....	2	.....	.....	Inap.	Inap.	Fair	Tourillere.
La Calle	.....	.....	29.84	757.9	78.6	25.9	54	WNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.81	757.2	73.0	22.8	32	WSW	.....	.....	5	.....	10	.....	.....	0	0	Covered	Jacques.
Sfax	.....	.....	29.94	760.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.01	762.2	67.6	19.8	33	W	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	29.77	756.1	66.6	19.2	23	NNE	.....	.....	5	.....	10	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	30.04	762.9	63.9	17.7	98	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.05	763.2	73.0	22.8	20	SSW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.98	761.5	68.7	20.4	30	SSE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	28.87	733.2	29.40	746.8	58.6	14.8	56	SW	.....	.....	5	.....	7	.....	.....	1.134	3.4	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.59	726.1	29.35	745.5	47.1	8.4	87	NW	.....	.....	1	.....	2	.....	.....	0.197	5.0	.....	Dr. Wierzbiski
Eperies	28.80	726.3	29.48	748.8	40.6	4.8	94	Calm	.....	.....	0	.....	10	.....	.....	0.075	1.90	.....	Julius Mikolik.
Gratz	28.11	713.9	29.34	745.1	52.0	11.1	75	SW	.....	.....	3	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.15	715.1	29.31	757.2	49.3	9.6	78	S	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	27.91	708.8	29.22	742.3	49.1	9.5	71	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.39	721.2	29.38	746.2	45.0	7.2	80	SW	.....	.....	1	.....	7	.....	.....	0.256	6.5	.....	Dr. T. Stanecki.
Pola	29.31	744.4	29.42	747.2	65.4	18.0	88	SE	.....	.....	6	.....	9	.....	.....	0.063	1.6	.....	I.R.Hydrographic Office.
Szathmar	29.49?	749.0?	29.36?	761.0?	48.2	9.0	73	SW	.....	.....	3	.....	10	.....	.....	0.079	2.0	.....	Julius Csics, S. J.
Szegedin	29.21	742.0	29.49	749.1	51.4	10.8	86	S	.....	.....	1	.....	10	.....	.....	0.179	4.55	.....	Karl Stancel.
Trieste	29.32	744.6	29.42	747.2	56.8	13.8	76	SE	.....	.....	2	.....	10	.....	.....	0.780	19.8	Raining	P. Busin.
Vienna	28.59	726.1	29.31	744.5	36.7	2.6	96	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. —10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.02	737.1	29.12	739.6	36.0	2.2	.....	NE	15	6.7	.....	.....	9	.....	.....	0.010	0.25	Overcast	W. Boswell.
Ardrossan	29.04	737.6	29.06	738.1	39	3.9	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Foggy	William McNeil.
Armagh, Observatory	.....	.....	29.07	738.4	43 0	6.1	.....	NNE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.02	737.1	43.4	6.3	.....	NNW	2	0.9	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton, (Sharples)	.....	.....	29.03	737.3	42.6	5.9	.....	SW	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	28.62	726.9	29.02	737.1	44.1	6.7	.....	W	.....	.....	1	.....	7	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	30.00	762.0	81.5	27.5	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.02	737.1	50.5	10 3	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	H. Todd.
Cardington	.....	.....	29.11	739.4	48.6	9.2	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. F.	28.89	733.8	29.02	737.1	52.5	11.4	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	Corpl. Daly, R. E.
Dartmoor	27.80	693.4	28.75	730.2	43.0	6 1	.....	SE	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	Alexander Watt.
Donaghadee	29.03	737.3	29.07	738.4	43	6.1	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.05	737.9	29.07	738.4	44	6.7	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	28.68	728.5	28.90	734.0	48.0	8.9	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.63	710.8	29.94	760.6	78.8	26.0	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Pvt. S. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.68	753.9	29.90	759.4	87	30.6	.....	SW	.....	.....	.....	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	28.99	736.3	45	7.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.96	761.0	30.01	762.2	56.8	13.8	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	Gloomy	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.58	733.5	29.09	738.9	38.0	3.3	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	28.99	736.3	29.00	736.6	47	8.3	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich, Royal Observ	28.88	733 5	29.05	737.9	49.5	9.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	28.82	732.0	29.04	737.6	48.5	9.2	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	Dr. S. E. Hoskins, F.R.S
Helston	28.86	733.0	28.97	735.8	51	10.6	.....	S	.....	.....	4	.....	2ck	.....	.....	0.38	9.7	Fine	M. P. Moyle.
Holyhead	28.98	736.1	29.03	737.5	43	6.1	.....	NNE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	28.77	730.7	29.05	737.9	48.0	8.9	.....	SSW	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	
Kew, Observatory	29.01	736.8	29.05	737.9	49.7	9.8	.....	SW	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy	The Meteorological Of.
Leicester, Museum	28.77	730.7	29.02	737.1	47.0	8.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Hardison, F.G.S
Malta, (Mediterranean)	29.92	760.0	29.99	761.7	66	18.9	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.05	737.9	29.14	740.1	37	2.8	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.12	765.0	73.0	22.8	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	28.84	732.5	29.02	737.1	45.8	7.7	.....	NNE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.49	723.6	29.01	736.8	45.5	7.5	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obsty	.....	.....	29.02	737.1	49	9.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	28.87	733.3	28.95	735.3	49.6	9.8	.....	S	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	28.84	732.5	28.88	733.5	50	10.0	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	W. Kennedy.
Saint Ann's Head	28.77	730.7	28.95	735.3	48	8.9	.....	ESE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.16	740 7	38.5	3.6	.....	Calm	0	0	.....	.....	5	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.81	757.2	53.4	11.9	.....	SSW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	28.76	730.5	29.02	737.1	48.9	9.4	.....	N	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.04	737.6	29.06	738.1	40.6	4.8	87	SE	.....	.....	2	.....	7	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	28.63	727.2	29.04	737.6	43.7	6.5	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Strathfield Turgiss	28.82	732.0	29.03	737.3	49.1	9.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Showery	C. H. Griffith, F. M. S.
Thurso	29.08	738 6	29.15	740.4	39	3.9	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	John Trotter.
Truro Royal Institution	.....	.....	29.67	753.6	52	11.1	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	W. Vincent.
Valencia, Observatory	28.93	734.8	28.96	735.6	48.2	9.0	.....	N	20	8.9	.....	.....	10	.....	.....	.....	.....	Misty	The Meteorological Of.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....					.....												
Leith, Restalrig Park	.....	.....	29.13	739.9	37.9	3.3	.....	NE	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy	Francis Abbott, F.R.A.S.
Mauritius, Observatory	.....	.....	29.92	759 9	82.0	27.8	66	E	15.6	6.9	.....	4	2	.....	E	0.08	2.05	Fine	Andrew Gibb.
Melbourne, Observatory	30.00	762.0	30.00	764.3	58.2	14.6	63	SE	10	4.5	.....	.....	5	.....	.....	0.77	19.6	Fine	C. Meldrum.
Monach L't-house, (Hebrides)	.....	.....	29.14	740.1	44	6.7	.....	NE	.....	.....	6	10	3	NE	.....	0	0	.....	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	29.09	738.9	40	4.4	.....	SW	.....	.....	4	10	4	W	.....	.....	.....	.....	J. Youngclause.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected or instrumental error and temperature. Inches.	Barometer. Corrected or instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.25	666.7	29.97	761.2	62.2	16.8	79	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.00	736.6	29.05	737.8	39.7	4.3	93	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	.....
Faröe	28.81	731.7	28.83	732.2	36.2	1.8	98	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	.....
Godthaab, (Greenland)	29.55	750.6	29.59	751.6	18.5	7.5	81	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.23	742.5	29.27	743.4	35.8	2.1	62	N	.....	.....	4	.....	3	.....	.....	.....	.....	.....	.....
Vestervig	28.65	727.7	28.82	732.0	36.4	1.9	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.64	727.4	29.19	741.4	50.7	10.4	92	SW	.....	.....	1	.....	8	.....	N	0.205	5.2	Very cloudy	Collignon, Director
Amiens, Normal School	29.04	737.6	29.15	740.4	54.0	12.2	74	SSW	.....	.....	1	.....	2	.....	NE	0	0	Slightly cl'dy	Bouvallet, Director *
Avignon, Normal School	29.31	744.5	29.39	746.5	58.5	14.7	61	WNW	.....	.....	1	.....	0	.....	.....	0.142	3.6	Clear.	M. Giraud, Director.
Bar-sur-Seine	28.70	729.0	29.26	743.1	50.4	10.2	74	SW	.....	.....	1	.....	8	.....	SW	0.236	6.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	28.89	733.8	29.17	740.9	52.0	11.1	74	WSW	.....	.....	1	.....	5	.....	WSW	0.187	4.75	Cloudy	Frère Eugene Marie, Dir.
Besançon, Normal School	28.44	722.5	29.33	745.0	48.7	9.3	70	SE	.....	.....	2	.....	10	.....	SW	0.20	5.	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.45	722.6	29.34	745.3	45.5	7.5	86	N	.....	.....	2	.....	n	S	N	0.47	12.	.....	M. Marlot, Director.
Bourges, Normal School	28.71	729.2	29.25	743.0	50.0	10	86	WSW	.....	.....	1	.....	8	SW	WSW	0.04	1.	Very cloudy	A. Waquet, Director.
Brest, Naval Observatory	28.77	730.8	29.02	737.0	54.3	12.4	80	SW	.....	.....	3	.....	7	.....	SW	0.049	1.25	Very cloudy	M. de Rermaree, Director
Carcassonne, Normal School	28.99	736.3	29.39	746.6	56.1	13.4	71	NE	.....	.....	1	.....	5	W	W	0.016	0.4	Cloudy	September, Director.
Caen, Normal School	29.02	737.2	29.10	739.1	53.6	12	74	SE	.....	.....	2	.....	5	.....	NE	0.039	1.0	Cloudy	M. Lair, Director.
Chartres, Normal School	28.60	726.3	29.15	740.4	50.0	10	84	S	.....	.....	4	.....	6	.....	NNE	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	28.91	734.4	29.22	742.3	51.6	10.9	73	SW	.....	.....	2	.....	10	WSW	WSW	0.154	3.9	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	27.96	710.3	29.80	744.1	51.3	10.7	54	SW	.....	.....	2	.....	5	.....	WSW	0.252	6.4	Cloudy	Allnard, Director.
Commercy, Normal School	28.40	721.3	29.27	743.4	47.8	8.8	81	SW	.....	.....	1	.....	10k	.....	SW	0.244	6.2	Covered	Ch. Coulet, Director
Commune de Grésque*	28 29	718.6	29.48	747.6	53.8	12.1	54	NW	.....	.....	3	.....	2	.....	NW	0	0	Slightly cl'dy	M. Kina, Director.
Grenoble, Normal School	28.83	727.3	29 40	746.7	48.2	9	95	SW	.....	.....	1	.....	10n	.....	S	0.146	3.7	Covered.	M. Ablard, Director.
La Roche-sur-Yon, N. School	28.99	736.4	29.22	742.2	54.0	12.2	76	SW	.....	.....	1	.....	5	.....	SW	0.012	0.3	Cloudy	Montillot, Director
Le Mans, Normal School	28.90	734.0	29.20	741.6	51.1	10.6	90	SW	.....	.....	5	.....	8	SSW	SSW	0.433	11.0	Very cloudy	Courrier, Director
Lons-Le-Saulnier, N.School	28.42	721.8	29.32	744.8	46.2	7.9	91	W	.....	.....	2	.....	10	.....	.....	0 63	16.	Raining	Baudry, Director.
Lorient, Naval Observatory	29.02	737.1	29.12	739.6	56.1	13.4	83	WSW	.....	.....	5	.....	.....	W	SW	0.071	1.8	.....	Lt. P. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.21	716.6	29.24	742.6	48.9	9.6	76	NNE	.....	.....	1	.....	ks	.....	SW	0.217	5.5	.....	M. Barbier, Director.
Nismes Normal School	29.19	741.4	29.39	746.4	57.2	14.4	74	SW	.....	.....	1	.....	2	.....	NE	0.12	3.	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.37	720.7	29.42	747 3	53.2	11.8	61	N	.....	.....	1	.....	n	SE	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.40	621.1	.....	.....	30.6	— 0.8	100	W	.....	.....	7	.....	10	.....	.....	0.236	6.0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	29.19	741.4	29.22	742.2	53.2	11.8	93	WSW	.....	.....	2	.....	8	W	W	0.008	0.2	¾ covered	Lt. Decante, Director.
Rouen, Normal School	29.04	737.6	29.12	739.7	53.6	12.0	64	SW	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.00	736.6	29.03	737.4	49.3	9.6	89	S	.....	.....	1	.....	10	S	S	0.044	1.12	Raining	Lt. Hercouet, Director
Saint Maur, (near Paris)	29.04	737.6	29.20	741.8	53.8	12.1	66	SSW	.....	.....	1	.....	.....	.....	.....	0.020	0.5	.....	E. Renou, Director.
Tarbes, Normal School	28.56	725.4	29.07	753.7	51.8	11	63	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Versailles Observatory	28.54	724.9	29.26	743.1	48.7	9.3	97	SE	.....	.....	2	.....	2	.....	SW	0.24	6.	Slightly cl'dy	Ch. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.69	728.8	29.19	741.3	53.6	12.0	.....	SW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	M. Gausserand, Director.
Sub-Series.																			
Fort de France, Martinique	30.00	762.1	30.03	762.8	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.38	35.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.35	745.4	50.2	10.1	66	W	.....	.....	1	.....	9	.....	.....	0.224	5.7	Almost cov'd	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.35	618.5	29.67	753.5	39.2	4.0	71	SW	.....	.....	10	.....	4	.....	SW	0 370	9.4	.....	M. Cave.
Nice	.....	.....	29.33	745.0	56.8	13.8	75	SW	.....	.....	1	.....	8	.....	.....	0	0	Hazy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	28.91	734.4	.....	.....	54.2	12.4	65	SW	.....	.....	3	.....	8	.....	WSW	0	0	.....	Marié Davy, Director.
Perpignan	29.32	744.6	29.42	747.3	56.7	13.7	73	SE	13.0	5.8	.....	.....	2	.....	W	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.93	557.1	.....	.....	27.0	— 2.8	.....	W	.....	.....	6	.....	9	.....	.....	0.114	2.9	Cloudy	Cmdt de Nansouty.
Toulouse, Observatory	28.72	729.6	29.43	747.6	55.8	13.2	66	SSW	.....	.....	2	.....	8	.....	.....	0.024	0.6	Light rain	M. Mercadier Juller.
Tours	29.02	737.2	29.22	742.2	49.6	9.8	84	S	.....	.....	3	.....	8	.....	W	0.079	2.0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.34	770.7	30.37	771.4	36.0	2.2	77	S	3.4	1.5	.....	.....	7	.....	.....	0	0	Very cloudy	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general erms as published; at Saint Maur, the observations have been take at 1:00 instead of 6:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft., Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.39	721.2	29.21	742.0	46.4	8.0	83	S	.....	.....	6	.....	6	SW	.....	0.173	4.4	.....	Prof. Dr. Hoh.
Berlin	29.04	737.6	29.21	741.9	50.5	10.3	68	SW	.....	.....	2	.....	3	.....	.....	0.106	2.7	.....	Prof. Arndt.
Breslau	28.79	731.2	29.31	744.4	51.6	10.9	70	S	.....	.....	1	.....	7	.....	.....	0.118	3.00	.....	Royal University Obs'y
Carlsruhe	28.81	731.8	29.22	742.2	50.0	10.0	74	SW	.....	.....	2	.....	10	SW	.....	0.291	7.4	.....	Albert Senx.
Cassel	28.56	725.4	29.20	741.6	47.8	8.8	77	SW	.....	.....	3	.....	7	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	28.94	735.0	29.10	739.0	50.5	10.3	72	SW	.....	.....	4	.....	9	.....	.....	0.04	1.	.....	Director Lose.
Emden	.....	.....	.....	.....	43.2	6.2	91	WSW	.....	.....	6	.....	10	.....	.....	0.39	10.	.....	Prof. Prestel.
Frankfort on the Main	28.86	733.0	29.22	742.2	51.8	11.0	.....	SW	.....	.....	2	.....	7	.....	.....	0.225	5.8	.....	Physical Society.
Friedrichshafen	27.85	708.1	29.22	742.2	44.6	7.0	91	SE	.....	.....	2	.....	10	SE	.....	0.953	24.2	Raining	M. Wilhelm.
Hamburg	28.98	736.1	29.05	737.9	48.6	8.9	80	SSW	.....	.....	6	.....	10n	.....	.....	0.177	4.5	Squally	Captain F. Hegemann.
Kiel	28.98	736.0	28.99	736.4	45.7	7.6	87	SSW	.....	.....	5	.....	10	.....	.....	0.328	8.32	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.00	738.9	29.17	741.0	41.0	5.0	98	W	.....	.....	3	.....	10	.....	.....	0.264	6.7	.....	Prof. E. Luther.
Köslin	.....	.....	29.15	740.4	50.2	10.1	.....	Calm	.....	.....	0	.....	1	.....	.....	0.390	9.9	.....	H. Müller.
Leipsic, Observatory	28.82	732.1	29.24	742.6	50.2	10.1	68	S	.....	.....	2	.....	7	SW	.....	0.067	1.7	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.11	739.3	29.15	740.4	35.6	2.0	100	S	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog	Skalweit.
Neufahrwasser	29.19	741.5	29.21	741.9	48.6	9.2	84	W	.....	.....	3	.....	8	.....	.....	0.154	3.9	.....	A. Lothes.
Posen	29.01	736.9	29.30	744.1	50.9	10.5	74	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	28.72	729.5	29.26	743.3	50.4	10.2	81	SSW	.....	.....	3	.....	10	SW	.....	0.154	3.89	.....	Imp. University Observatory.
Stuttgart	28.32	719.3	29.21	742.0	48.6	9.2	68	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	27.80	706.0	29.30	744.1	43.7	6.5	87	SW	4	2	.....	.....	10	.....	SSW	0.262	6.4	.....	Dr. Van Bebber.
Wustrow, Naval School	29.04	737.6	29.06	738.2	47.3	8.6	100	S	.....	.....	2	.....	5k	.....	.....	0	0	.....	E. Schütz, Dir.
GERMAN NAVAL SERIES.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.3	29.93	760.2	61.5	16.4	.....	SW	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Dusty	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.08	764.0	30.13	762 3	76.0	24.4	21	NE	2	0.9	.....	.....	1	.....	.....	0	0	D. clouds	
Deesa	29.52	749.9	30.01	762.2	75.0	23.9	17	NE	9.0	4.0	.....	.....	0	.....	.....	0	0	Blue sky	
Bombay	29.92	760.0	28.96	761.0	76.1	24.5	55	NNW	24	10.7	.....	.....	6	NW	.....	0	0	D. clouds	
Poonah	27.95	709.8	29.94	760.6	81.4	27.4	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.31	744.5	30.08	764.2	64.6	18.1	26	Calm	1.8	0.8	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.39	696.4	29.91	759.7	80.1	26.7	36	WSW	6	2.7	.....	.....	4	WNW	.....	0	0	D. clouds	
Roorkee	29.09	739.0	30.02	762.5	67.8	19.9	14	NW	3	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Agra	29.44	748.1	30.01	762.3	76.2	24.6	47	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.89	733.7	29.93	760.1	83.6	28.7	31	Calm	1.4	0.6	.....	.....	.....	.....	.....	0	0	Blue sky	
Lucknow	29.61	752.1	29.99	761.8	70.3	21.3	66	NE	1.9	0.8	.....	.....	.....	.....	.....	0	0	Blue sky	
Allahabad	29.68	753.7	29.99	761.8	73.1	22.8	57	NNW	2.9	1.3	.....	.....	0	.....	.....	0.01	0.3	Blue sky	
Patna	29.80	756.8	29.98	761.6	71.3	21.8	75	E	2.8	1.2	.....	.....	4	E	NE	0	0	D. clouds	
Hazaribagh	27.90	708.6	29.94	760.4	73.3	22.9	47	N	13.6	6.1	.....	.....	5	W	.....	.....	.....	Raining	
Cuttack	29.90	759.5	29.99	761.6	76.8	24.9	51	S	2.6	1.2	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.96	761.1	29.99	761.7	72.9	22.7	78	WSW	2.0	0.9	.....	.....	2	.....	.....	0	0	D. clouds	
Goalpara	29.62	752.2	30.02	762.5	65.1	18.4	74	Calm	5.2	2.3	.....	.....	0	.....	.....	0.06	1.5	Blue sky	
Chittagong	29.92	760.0	30.02	762.4	73.8	23.2	85	WSW	6.2	2.8	.....	.....	0	.....	.....	0	0	Misty	
Sibsagar	29.70	754.4	30.05	763.3	64.9	18.3	78	ENE	1.1	0.5	.....	.....	10	SW	SW	0	0	D. clouds	
Jubbulpore	28.68	725.9	29.96	760.9	76.9	24.9	23	N	2.3	1.0	.....	.....	0	.....	.....	0	0	Blue sky	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.98	736.2	29.40	746.7	52.2	11.2	87	SW	6.9	3.1	.....	.....	10	.....	.....	0.394	10.0	.....	Prof. Giovanni Clodig.
Padua	29.24	742.8	29.35	745.6	54.3	12.4	88	NNE	8.1	3.6	.....	.....	10	SW	.....	0.036	0.9	.....	Prof. Dott. Lorenzoni
Milan	28.75	730.2	29.27	743.4	46.6	8.1	99	E	.....	.....	1	.....	10	.....	.....	0.362	9.2	.....	Prof. Schiaparelli.
Moncalieri	28.40	721.3	29.31	744.5	43.0	6.1	83	NNW	2.5	1.1	.....	.....	10	.....	.....	0.157	4.0	.....	Prof. P. F. Denza.
Mondovi	27.38	695.3	29.20	743.9	40.5	4.7	97	W	.....	.....	4	.....	10	.....	.....	0.020	0.5	.....	Prof. D. C. Bruno.
Genoa	29.13	739.8	29.32	744.7	57.0	13.9	80	SW	15.4	6.9	.....	.....	10	SW	.....	0.244	6.2	.....	Prof. G. M. Garibaldi.
Florence	29.19	741.4	29.45	748.0	60.8	16.0	77	S	.....	.....	6	.....	10	SW	.....	0.035	0.9	.....	Cav. F Meucci
Leghorn	29.31	744.5	29.40	746.7	60.4	15.8	79	S	18.6	8.3	.....	.....	10	S	.....	0.024	0.6	.....	Prof. P. Monte.
Pesaro	29.37	746.9	29.41	747.1	61.9	16.6	64	S	14.3	6.4	.....	.....	9	S	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.47	748.5	29.64	752.9	58.5	14.7	85	S	15.4	6.9	.....	.....	10	.....	.....	0.126	3.2	.....	Prof. P. S. Ferrari.
Lecce	29.66	750.7	29.81	757.2	56.7	13.7	89	SSE	18.6	8.3	.....	.....	8	SE	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.51	749.5	29.70	754.4	61.0	16.1	70	W	.....	.....	6	.....	10	.....	.....	0.047	1 2	.....	Prof. A. Pacinotti.
Cosenza	28.91	734.2	29.79	756.7	68.0	20.0	89	SW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.64	750.4	29.80	756.8	73.8	23.2	20	SW	16.8	7.5	.....	.....	10	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.75	755.6	29.82	757.4	62.2	16.8	68	SSE	8.7	3.9	.....	.....	10	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.14	740.2	29.70	754.3	59.7	15.4	71	NW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.23	767.8	30.25	768.3	37.8	3.2	77	N	6.0	2.7	.....	.....	0	.....	.....	0	0	Clear.	K. Sasaki.
Nagasaki, I. M. Obs'y	30.06	763.5	30.28	769.1	35.8	2.1	84	NNE	0.6	0.3	.....	.....	0	.....	.....	0.020	0.51	Clear.	S. Takehayashi.
Tokei (Yeddo) Observatory	30.12	765.0	30.19	768.3	33.2	0.7	66	N	3.5	1.6	.....	0	0	.....	.....	0.015	0.38	Clear.	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.17	639 3	30.42	772.7	39.2	4.0	51	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.52	622.8	30.21	767.4	49.6	9.8	63	SE	.....	.....	1	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.7	30.30	769.5	46.4	8.0	66	NW	3.4	1.5	.....	0	0	.....	.....	Inap.	Inap	Fine.	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	46.4	8.0	54	W	.....	.....	1	0	0	.....	.....	0	0	Clear.	M. V. de Leon, M. E
Tlacotalpam	30.04	762.9	30.05	763.2	71.4	21.9	95	N	.....	.....	1	1	2	N	NE	0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.32	617.7	30.46	773.4	41.0	5.0	48	W	.....	.....	.....	0	0	.....	.....	0	0	Clear.	G. Barroeta, M. D.
Vera-Cruz	30.05	763.3	30.08	764.0	73.4	23.0	91	NNE	6.7	3.0	.....	2c	6sk	S	N	0	0	Cloudy.	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.48	595.1	30.18	766.6	42.8	6.0	85	NNE	4.5	2.0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.39	721.2	30.07	763.8	70.7	21.5	62	NE	.....	.....	1	0	1	.....	.....	0	0	Clear.	R. Banda, C. E.
San Juan E. Michapam	29.89	759.3	30.02	762.6	72	22.2	.....	Calm	.....	.....	0	6n	4n	N	.....	0	0	Covered.	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1803 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of −0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.02	737.1	29.02	737.1	49.3	9.6	.....	S	.....	.....	5	.....	.....	.....	.....	0.413	10.5	.....	.....
Groningen	28.95	735.2	29.00	736.6	43.7	6.5	.....	SW	.....	.....	5	.....	.....	.....	.....	0.224	5.7	.....	.....
Helder	28.98	736.1	28.98	736.1	40.5	4.7	.....	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.05	737.8	29.05	737.8	46.8	8.2	89	WSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.02	737.2	29.07	738.4	48.2	9.0	84	SW	.....	.....	4	.....	8	.....	.....	0.188	3.5	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.00	736.7	29.06	738.1	35.6	2.0	61	E	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	
Brönö	29.25	743.0	29.29	744.0	15.4	— 9.2	56	SE	36	16	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.21	742.0	29.37	746.0	15.8	— 9.0	75	NNE	22	10	.....	.....	10	.....	.....	0.020	0.5	Snowing	
Tromsö	29.43	747.4	29.47	748.5	21.9	— 5.6	51	SE	20	9	.....	.....	1	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.05	763.3	30.25	768.3	52.7	11.5	76	WNW	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28 81	731.7	29.86	758.5	46.6	8.2	83	SW	11.9	5.3	.....	.....	10	SW	.....	0.413	10.5	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.21	767.3	30.29	769.5	65.8	18 8	61	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.52	749.8	29.89	759.1	50.0	10.0	67	W	29.8	13.3	.....	.....	10	.....	.....	0.764	19.4	.....	The Staff.
Ponta Delgada, (Azores)	30.24	768.0	30.31	769.8	62.2	16.8	52	WSW	5.6	2.5	.....	.....	5	.....	.....	0.024	0.6	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa. Cachao, Senegambria	2	NNE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	0	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.87	733.4	29.29	744.0	49.3	9.6	79	WSW	11	5	.....	.....	1c	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.82	732.1	29.24	742.8	38.1	3.4	97	SSE	4	2	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.17	740.9	29.42	747.2	30.4	— 0.9	96	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.58	751.4	29.60	751.8	15.1	— 9.4	94	E	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.78	730.9	29.43	747.4	33 3	0.7	96	SSW	9	4	.....	.....	10n;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.58	751.3	29.65	753.1	41.5	5.3	89	SSW	31	14	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.84	758.0	29.86	758.5	45.7	7.6	91	S	9	4	.....	.....	10	.....	.....	.....	.....	Light rain	Lagorio.
Moscow	28.97	735.7	29.53	750.0	33.4	0.8	87	N	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.51	749.6	29.72	754.9	35.6	2.0	89	SSW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.00	762.0	30.02	762.5	—16.1	—26.7	62	ENE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.56	725.4	29.98	761.5	53.6	12.0	62	N	4	2	.....	.....	5k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.02	762.4	29.93	760.3	38.1	3.4	80	SW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	29.09	738.9	29.58	751.2	30.9	— 0.6	90	SSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.20	741.8	29.48	748 8	30.9	— 0.6	98	SSW	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Ekaterinburg	28.78	730.9	29.79	756.7	19.6	— 6.9	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nukuss	29.65	753.1	29.89	759.1	49.6	9.8	25	E	4	2	.....	.....	2cs	.....	.....	.....	.....	.....	
Tashkend	28.47	723 1	30.24	768.2	38.3	3.5	61	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.67	753.7	30.21	767.4	15.3	— 9.3	69	SW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.18	766 6	30.53	775.4	—22.9	—30.5	73	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.02	762.4	30.16	766.0	34.5	1.4	46	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N: 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.42	747.2	29.52	749.9	59.9	15.5	40	WSW	4.7	5.19	.....	.....	2k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.36	745.8	29.42	747.2	61.9	16.6	48	W	8.5	3.82	.....	2	4	SW	.....	0.008	0.2	Cloudy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.60	675.6	.....	.....	43.9	6.6	86	SW	24.4	10.91	.....	.....	8	.....	.....	0.433	11.0	Cloudy	Domingo Martin y Perer.
Madrid, Royal Observatory	27.46	697.5	.....	.....	46.2	7.9	78	SW	32.1	14.34	.....	0	10	.....	.....	0.154	3.9	Covered	The Staff.
Murcia, Met. Obs'y	29.61	752.1	29.76	755 9	66.4	19.1	51	S	5.7	2.56	.....	.....	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.55	725.1	29.44	747.7	50.2	10.1	90	SW	15.4	6.9	.....	.....	10	.....	.....	1.138	28.9	Raining	R. Gil Villanueva, Dir
Sub-Series																			
Havana, Cuba, W. I.	29.99	761.7	30.06	763.4	70.1	21.2	86	E	7.8	3.5	.....	1c	1sk	WSW	.....	0	0	Fair	Benito Vines, S. J
Manilla, Philippine Islands	29.95	760.8	30.01	762.2	78.8	26.0	76	E	0.4	0.2	.....	.....	.....	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	760.0	30.02	762.5	60.4	15.8	70	WSW	29.5	13.2	.....	0	5	.....	W	0.123	3.1	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	30.02	762.5	30.11	764.8	75.9	24.4	90	S	6.3	2.80	.....	4k	3k	S	S	0	0	Cloudy	Leonardo de Tejeda, Ch't. Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenhe	Temperature of the Air. Centigrad	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.84	758.0	29.88	759.0	— 1.1	—18.4	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Umea	29.68	753.9	29.73	755.2	3.6	—15.8	90	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	29.58	751.4	29.63	752.7	5.4	—14.8	100	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Stockholm	29.12	739.7	29.80	744.1	28.4	— 2.0	94	NNE	.....	.....	5	.....	10	.....	.....	0	0	.....	
Wisby	29.11	739.3	29.17	740.8	33.1	0.6	82	ESE	.....	.....	3	.....	10	.....	.....	0.134	3.4	Snowing	
Sub-Series.																			
Upsala	29.26	743.2	29.34	745.1	26.8	— 2.9	96	NE	12.1	5.4	.....	.....	10	.....	.....	0.151	3.82	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.93	709.5	29.39	746.6	42.3	5.7	97	S	.....	.....	3	.....	10	.....	.....	0.870	22 1	Raining	The Observatory.
Zurich	27.71	703.8	29.79	756.6	40.6	4.8	95	NW	.....	.....	2	.....	10	.....	.....	1.087	27.6	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —17.0 mm.; Thermometer, +2.3 ent.; Relative Humidity, +25 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.4	55.6	13.1	61	S	4	2.0	.....	.....	3	.....	SW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....
Valona	.....	.....	29.84	757.9	68.2	20.1	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.91	759.7	30.03	762.8	62.4	16.9	68	N	.....	.....	1	.....	1k	.....	.....	0.03	0.8	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.97	761.2	30.04	763.0	15.1	— 9.4	68	SW	8	3.6	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.62	752.3	29.94	760.5	30	— 1.1	.....	Calm	0	0	.....	.....	10s	.....	S	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	30.02	762.5	30.08	764.0	14	—10.0	91	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.14	765.5	30.18	766.6	18	— 7.8	94	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.68	753.9	29.89	759.2	9.0	—12.8	96	SE	.....	.....	1	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.76	755.9	29.81	757.2	.....	.....	.....	N	.....	.....	.....	.....	10	.....	.....	.....	.....	Snowing	W. H. Bevis.
*Father Point, Quebec	29.92	760 0	29.95	760.7	16	— 8.9	68	SW	25	11.2	.....	.....	10s	.....	SW	0	0	Cloudy	J. McWilliams.e
Fredericton, N. B	30.05	763.3	30.12	765.0	8.2	—13.2	96	S	1	0.4	.....	10ck	0	W	.....	0.52	13.2	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.47	748.5	30.44	773.2	—14	—25.6	100	N	10	4.5	.....	.....	10n	.....	.....	0	0	Cloudy	James Stewart.
Granton, Ontario	28.64	727.4	29.77	756.1	34	1.1	.....	E	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Light rain	James Grant.
*Halifax, N. S	30.10	764.5	30.24	768.1	21	— 6.1	93	S	1	0.4	.....	.....	10ks	.....	SW	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.50	749.3	29.88	758.9	37.7	3.2	94	S	.....	.....	1	10cs	0	SW	.....	0.04	1.0	Raining	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.53	750.0	29.87	758.7	31	— 0.6	80	S	22	9.8	.....	.....	10s	.....	S	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.22	767.6	30.26	768.6	16.0	— 8.9	95	W	5	2.2	.....	8k	0	W	.....	0.300	7.62	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.76	755 9	29.98	761.5	8	—13.3	87	S	12	5.4	.....	.....	10n	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.08	738.6	29.80	756.9	32	0.0	96	Calm	0	0	.....	.....	10n	.....	S	0.85	21.6	Light snow	Rev. R. Mosley.
Peterboro, Ontario	29.08	738.6	29.86	758.4	33.5	0.8	70	Calm	.....	.....	.....	.....	10n	.....	.....	0.40	10.2	Snowing	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	30.19	766.8	30.24	768.1	20.7	— 6.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.17	740.9	29.84	757.9	33	0.6	92	SE	10	4.5	.....	.....	10n	.....	SE	0.12	3.0	Sleeting	M. Payne.
*Quebec, Quebec	29.68	753.9	30.03	762.8	11	—11.7	100	NW	.....	.....	1	.....	10n	.....	NW	0.03	0.8	Light snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	33	0.6	96	S	.....	.....	2	.....	10n	.....	.....	0.12	3.0	Foggy	Dr. Gove.
St. John, N. B	29.96	761.0	30.13	765.3	31	— 0.6	79	SW	23	10.3	.....	.....	10s	.....	.....	0.51	13.0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.05	737.9	29.78	756.4	34	1.1	95	S	6	2.7	.....	.....	10s	.....	.....	0.14	3.6	Light snow	K. Stewart.
Stayner, Ontario	28.99	736.3	29.80	756.9	32	0.0	91	SE	5	2.2	.....	.....	10n	.....	SE	0	0	Threatening	R. J. Cole.
Stratford, Ontario	28.48	723.4	29.70	756.7	33.4	0.8	95	S	6.0	2.7	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.24	768.1	30.28	769.1	14	—10.0	93	S	2	0.9	.....	8ok	2s	W	.....	0.01	0.3	Fair	T. C. Hill.
*Toronto, Ontario	29.47	748.5	29.87	758.7	32	0.0	95	SW	3	1.3	.....	.....	10n	.....	SW	0.01	0.3	Light rain	Magnetic Observatory.
Windsor, N. S	30.13	765.3	30.23	767.8	21	— 6.1	93	SW	12	5.4	.....	6cs	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	14.0	—10.0	100	SE	.....	.....	.....	.....	10n	.....	.....	0.23	5.8	Stormy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.86	758.4	30.10	764.5	31	— 0.6	63	S	17	7.6	.....	8cs	2s	SW	SW	0	0	Cloudy	
Alpena, Michigan	29.11	739.4	29.77	756.1	32	0.0	89	NE	15	6.7	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
Atlanta, Georgia	28.83	732.3	30.00	762.0	44	6.7	100	E	9	4.0	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Atlantic City, New Jersey	30.24	768.1	30.26	768.6	38	3.3	81	S	10	4.5	.....	10c	0	N	.....	0	0	Cloudy	
Augusta, Georgia	29.92	760 0	30.10	764.5	53	11.7	93	Calm	0	0	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Baltimore, Maryland	30.17	766.3	30.22	767.6	36	2.2	80	SE	3	1.3	.....	.....	10s	.....	SW	0	0	Threatening	
Barnegat, New Jersey	30.20	767.1	30.22	767.6	38	3.3	81	S	26	11.6	.....	5k	0	S	.....	0	0	Fair	
Bismarck, Dakota	28.30	718.8	30.15	765.8	—11	—23.9	100	N	6	2.7	.....	0	0	.....	.....	0.16	4.1	Clear	
Boerne, Texas	28.58	725.9	29.92	760.0	47	8.3	62	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.03	686.6	29.99	761.7	43	6.1	75	S	8	3.6	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Boston, Massachusetts	30.04	763.0	30.21	767.3	37	2.8	53	SW	20	8.9	.....	5ck	2s	W	SW	0	0	Fair	
Brackettville, Texas	29.96	735.6	30.02	762.5	48	8.9	85	NW	2	0.9	.....	.....	Haze	.....	Calm	0	0	Hazy	
Breckenridge, Minnesota	29.10	739.1	30.21	767.3	3	—16.1	90	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.00	762.0	30.06	763.5	62	16.7	94	S	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Buffalo, New York	29.14	740.1	29.85	758.2	36	2.2	90	SW	4	1.8	.....	.....	10n	.....	SW	0.05	1.3	Light rain	
Burkes, Arizona	.....	.....	.....	.....	49	9.4	Inap.	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.72	754.9	30.02	762.5	28	— 2.2	77	S	22	9.8	.....	.....	10s	.....	W	0	0	Cloudy	
Cairo, Illinois	29.47	748 5	29 85	758.2	52	11.1	86	SW	11	4.9	.....	.....	10s	.....	SW	0.42	10.7	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.36	644.1	30.16	766.1	39	3.9	46	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	32	0.0	60	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp o, California	27.64	702.0	30.21	767.3	32	0.0	79	E	4	1 8	.....	5k	0	Calm	.....	0	0	Fair	
Cape Hatteras, N. Carolina	30.26	768.6	30.27	768.8	49	9.4	78	SE	20	8.9	.....	5k	5s	NW	SE	0.03	0.8	Cloudy	
Cape Henry, Virginia	30.19	766.8	30.21	767.3	43	6.1	83	SE	2	0.9	.....	1c	5s	S	SE	0	0	Fair	
Cape Lookout, N. Carolina	30.20	767.1	30.21	767.3	54	12.2	80	S	24	10.7	.....	.....	10ks	.....	S	0	0	Cloudy	
Cape May, New Jersey	30.21	767.3	30.24	768.1	39	3.9	82	SE	16	7.2	.....	2ck	0	W	.....	0	0	Fair	
Castroville, Texas	29.28	743.7	30.00	762.0	47	8.3	62	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.09	764.3	30.16	766.1	57	13.9	94	SE	9	4.0	.....	5k	5s	SE	SE	0.21	5.3	Clearing	
Cheyenne, Wyoming	23.93	607.8	29.87	758.7	28	— 3.3	63	W	8	3.6	.....	0	5s	.....	W	0	0	Fair	
Chicago, Illinois	28.90	734.0	29.58	751.3	43	6.1	92	S	1	0.4	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
Cincinnati, Ohio	29.14	740.1	29.78	756.4	49	9.4	85	S	8	3.6	.....	.....	10n	.....	SW	0.17	4.3	Light rain	
Cleveland, Ohio	29.08	738.6	29.89	759.9	40	4.4	82	SE	13	5.8	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Coleman City, Texas	28.23	717.0	29.93	760.2	45	7.2	61	N	12	5.4	.....	5c	0	NW	.....	0	0	Fair	
Columbus, Ohio	28.94	735.1	29.77	756.1	42	5.6	83	S	10	4.5	.....	.....	10n	.....	SE	0.16	4.1	Light rain	
Corpus, Texas	28.13	714.5	29.88	758.9	46	7.8	48	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	30.02	762.5	45	7.2	68	SW	6	2.7	.....	0	0	.....	.....	0.25	6.3	Clear	
Davenport, Iowa	29.00	736.6	29.63	752.6	40	4.4	82	SW	15	6.7	.....	.....	10n	.....	Calm	0.04	1.0	Light rain	
Deadwood, Dakota	25.24	641.1	.....	.....	3	—16.1	73	SW	4	1.8	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Decatur, Texas	28.84	732.5	30.02	762.5	50	10.0	70	SW	6	2.7	.....	0	5s	.....	.....	0	0	Fair	
Denison, Texas	29.20	741.7	30.00	762.0	46	7.8	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.72	627.9	29.94	760.5	34	1.1	79	S	4	1.8	.....	5ck	2s	Calm	Calm	0	0	Fair	
Des Moines, Iowa	28.97	735.8	29.89	759.2	23	— 5.0	86	NW	12	5.4	.....	0	8s	.....	SW	0.16	4.1	Cloudy	
Detroit, Michigan	29.04	737.6	29.71	754.6	36	2.2	90	S	6	2.7	.....	.....	10n	.....	Calm	0.17	4.3	Light rain	
Dodge City, Kansas	27.50	698.5	29.92	760.0	25	— 3.9	87	N	16	7.2	.....	0	2s	.....	N	0	0	Fair	
Dubuque, Iowa	29.01	736.8	29.72	754.9	29	— 1.7	89	N	13	5.8	.....	.....	10n	.....	Calm	0.26	6.6	Heavy snow	
Duluth, Minnesota	29.40	746.7	30.15	765.8	8	—13.3	89	NW	10	4.5	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Eagle Pass, Texas	29.31	744.5	30.07	763.8	48	8.9	70	N	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	
Eastport, Maine	30.04	763.0	30.11	764.8	32	0.0	79	SW	12	5.4	.....	5k	5s	SW	SW	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	65	18.3	94	NW	.....	.....	4	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.33	668.8	.....	.....	35	1.7	50	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.10	739.1	29.82	757.4	40	4.4	82	S	8	3.6	.....	.....	10n	.....	SW	0.13	3.3	Light rain	
Escanaba, Michigan	29.23	742.4	29.92	760.0	19	— 7.2	85	N	32	14.3	.....	.....	10s	.....	N	0.57	14.5	Cloudy	
Florence, Arizona	28.69	728.7	30.29	769 4	43	6.1	67	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.13	714.5	.....	.....	—13	—25.0	47	W	.....	.....	3	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Fort Craig, New Mexico	25.63	651.0	29.70	754.4	29	— 1.7	46	Calm	0	0	.....	2ck	0	NW	.....	0	0	Clear	
Fort Davis, Texas	25.31	642.9	30.27	768.8	50	10.0	37	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.0	30.01	762.2	36	2.2	100	N	5	2.2	.....	.....	Fog	.....	N	0.06	1.5	Foggy	
Fort Griffin, Texas	28.73	729.7	30.02	762.5	45	7.2	61	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.57	700.3	.....	.....	1	—17.2	100	N	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Fort McKavett, Texas	27.83	706.9	29.75	755.6	45	7.2	46	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.93	760.2	36	2.2	90	N	11	4.9	.....	0	8s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.32	719.3	.....	.....	—20	—28.9	100	SW	.....	.....	1	1c8	0	Calm	.....	0.04	1.0	Fair	
Fredericksburg, Texas	28.52	724.4	29.86	758.4	63	17.2	33	SW	4	1.8	.....	0	2cs	.....	Calm	0	0	Fair	
Galveston, Texas	29.94	760.5	29.99	761.7	59	15.0	94	W	6	2.7	.....	.....	10s	.....	W	0.04	1.0	Cloudy	
Graham, Texas	28.93	734.8	30.02	762.5	36	2.2	80	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	28.98	736.1	29.62	752.3	38	3.3	91	SE	4	1.8	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Indianapolis, Indiana	28.91	734.3	29.68	753.9	47	8.3	85	SW	4	1.8	.....	.....	10n	.....	SW	0.12	3.0	Light rain	
Indianola, Texas	29.99	761.7	30.02	762.5	57	13.9	87	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.84	732.5	30.00	762.0	42	5.6	58	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.09	764.3	61	16.1	88	S	9	4.0	.....	.....	10n	.....	S	0.69	17.5	Light rain	
Keokuk, Iowa	29.10	739.1	29.72	754.9	34	1.1	90	NW	13	5.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Key West, Florida	30.05	763.3	30.08	764.0	69	20.6	97	SE	13	5.8	.....	.....	10s	.....	SE	0.74	18.8	Threatening	
Kittyhawk North Carolina	30.20	767.1	30.22	767.6	43	6.1	83	S	18	8.0	.....	5ck	0	W	.....	0	0	Fair	
Knoxville, Tennessee	28.94	735.1	29.97	761.2	41	5.0	82	E	2	0.9	.....	.....	10n	.....	SW	0.08	2.0	Light rain	
La Crosse, Wisconsin	29.07	738.4	29.83	757.7	25	— 3.9	100	N	13	5.8	.....	.....	10n	.....	Calm	0.95	24.1	Light snow	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	30	— 1.1	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.66	753.4	30.01	762.2	50	10.0	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.11	739.4	29.99	761.7	28	— 2.2	77	NW	18	8.0	.....	0	5cs	.....	NW	Inap.	Inap.	Fair	
Los Angeles, California	29.92	760.0	30.27	768.8	52.0	11.1	93	E	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.22	742.2	29.78	756.4	51	10.6	86	S	9	4.0	.....	.....	10n	.....	S	0.16	4.1	Light rain	
Lynchburg, Virginia	29.47	748.5	30.17	766.3	38	3.3	63	Calm	0	0	.....	.....	10n	.....	Calm	0.16	4.2	Light rain	
Madison, Wisconsin	28.68	728.5	29.68	753.9	29	— 1.7	89	N	16	7 2	.....	.....	10n	.....	Calm	0.68	17.3	Heavy snow	
Marquette, Michigan	29.25	742.9	29.99	761.7	20	— 6.7	85	NW	17	7.6	.....	.....	10s	.....	NW	0.22	5.6	Cloudy	
Mason, Texas	28.41	721.6	30.20	767.1	50	10.0	45	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.60	751.8	29.92	760.0	52	11.1	93	SW	4	1.8	.....	.....	10s	.....	Calm	0.82	20.8	Cloudy	
Milwaukee, Wisconsin	28.90	734.0	29.64	752.8	34	1.1	90	N	21	9.4	.....	.....	10n	.....	Calm	0.22	5.6	Light snow	
Mobile, Alabama	29.92	760.0	29.97	761.2	57	13.9	94	NW	3	1.3	.....	.....	10s	.....	NW	0	0	Threatening	
Montgomery, Alabama	29.75	755.6	29.99	761.7	58	14.4	87	S	7	3.1	.....	.....	10ks	.....	S	0	0	Threatening	
Morgantown, West Virginia	28.84	732.5	29.89	759.2	48	8.9	78	S	9	4.0	.....	.....	10n	.....	Calm	0.14	3.6	Light rain	
Mt. Washington, N. H.	23.56	598.4	29.92	760.0	10	—12.2	89	NW	45	20.1	.....	2c	5s	Calm	Calm	0	0	Fair	
Nashville, Tennessee	29.35	745.5	29.88	758.9	50	10.0	93	S	8	3.6	.....	.....	10s	.....	S	0.31	7.9	Cloudy	
New Haven, Connecticut	30.13	765.3	30.25	768.3	39	3.9	73	S	9	4.0	.....	5cs	5s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	30.23	767.8	30.28	769.1	35	1.7	80	S	11	4.9	.....	6ck	0	SW	.....	0	0	Fair	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	56	13.3	87	N	4	1.8	.....	.....	10n	.....	Calm	0.68	17.3	Light rain	
Newport, Rhode Island	30.23	767.8	30.28	769 1	37	2.8	81	S	6	2.7	.....	8cs	0	SW	.....	0	0	Cloudy	
New York, New York	30.08	764.0	30.27	768.8	36	1.7	80	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.15	765.8	30.21	767.3	48	8.9	78	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.13	689.1	29.94	760.5	7	—13.9	88	NW	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	29.72	754.9	29.76	755.9	34.3	1.3	90	N	3	1.3	.....	.....	10n	.....	Calm	0.04	16.3	Heavy snow	
Omaha, Nebraska	28.86	4733.0	30.04	763.0	17	— 8.3	83	NW	18	8.0	.....	8k	2s	NW	Calm	0.23	5.8	Cloudy	
Oswego, New York	29.61	752.1	29.94	760.5	39	3.9	82	SE	9	4.0	.....	.....	10s	.....	.....	0	0	Cloudy	
Pembina, Dakota	29.42	747.2	30.38	771.6	—12	—24.4	100	NW	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Philadelphia, Pa	30.20	4767.1	30.25	768.3	37	2.8	71	SW	4	1.8	.....	1ck;k	Fog	W	Calm	0	0	Fair	
Phœnix, Arizona	29.04	737.6	30.01	762.1	45	7.2	76	SE	.....	.....	2	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.55	445.7	29.76	755.9	4	—15.6	100	SW	22	9.8	.....	.....	10n	.....	SW	0.10	2.5	Light snow.	
Pioche, Nevada	24.18	612.9	29.90	759.4	36	1.7	80	S	9	4.0	.....	0	5s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.07	4738.4	29.88	758.9	44	6.7	84	S	6	2.7	.....	.....	10n	.....	SW	0.06	1.5	Light rain	
Port Huron, Michigan	29.05	737.9	29.72	754.9	34	1.1	100	S	10	4.5	.....	.....	10n	.....	Calm	0.12	3.0	Light rain	
Portland, Maine	30.10	764.5	30.16	766.1	28	— 2.2	77	S	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
Portland, Oregon	29.66	753.1	29.75	755.6	36.0	2.2	90	NW	5	2.2	.....	.....	10n	.....	.....	1.35	34.3	Light rain	
Prescott, Arizona	24.83	630.7	30.19	766.8	30	— 1.1	78	W	1	0.4	.....	5ck	0	Calm	.....	0	0	Fair	
Pilot Point, Texas	29.14	740.1	29.97	761.2	49	9.4	78	SE	4	1.8	.....	5k	5s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.08	764.0	30.09	764.3	65	18.3	89	SE	8	3.6	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Red Bluff, California	29.74	755.4	30.10	764.5	54	12.2	80	SE	21	9.4	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Rio Grande City, Texas	29.92	760.0	30.14	765.5	52	11.1	93	Calm	0	0	.....	0	Fog	.....	.....	0	0	Light fog	
Rochester, New York	29.26	743.2	29.88	758.9	38	3.3	91	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.23	742.4	29.79	756.7	50.5	10.3	93	S	2	0.9	.....	.....	10s	.....	SW	0.59	15.0	Cloudy	
Sacramento, California	30.08	764.0	30.16	766.1	54	12.2	93	SE	8	3.6	.....	.....	10n	.....	S	0.27	6.9	Light rain	
St. Louis, Missouri	29.21	741.9	29.78	756.4	47	8.3	85	SW	12	5.4	.....	.....	10cs;s	.....	SW	0.09	2.3	Cloudy	
St. Marks, Florida	30.02	762.5	30.04	763.0	58	14.4	94	S	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
St. Paul, Minnesota	29.10	739.1	29.98	761.5	17	— 8.3	83	N	14	6.3	.....	.....	10s	.....	.....	0.05	1.3	Cloudy	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	41	5.0	65	NE	4	1.8	.....	.....	10n	.....	W	Inap.	Inap.	Light rain	
San Antonio, Texas	29.35	745.5	29.94	760.5	51	10.6	65	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.21	767.3	30.28	769.1	51	10.6	100	NE	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
Sandusky, Ohio	29.08	738.6	29.76	755.9	40	4.4	91	S	10	4.5	.....	.....	10n	.....	S	0.25	6.3	Light rain	
Sandy Hook, New Jersey	30.22	767.6	30.25	768.3	35	1.7	80	Calm	0	0	.....	8cs;k	0	W	.....	0	0	Cloudy	
San Francisco, California	30.09	764.3	30.16	766.1	56.3	13.5	89	SE	8	3.6	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	26	— 3.3	63	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.00	762.0	30.10	764.5	59	15.0	100	S	4	1.8	.....	.....	10n	.....	S	0.39	9.9	Light rain	
Shreveport, Louisiana	29.74	755.4	29.96	761.0	51	10.6	100	N	4	1.8	.....	.....	Fog	.....	Calm	0.66	16.8	Foggy	
Silver City, New Mexico	24.36	618.7	30.70	779.8	35	1.7	70	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.18	766.6	30.22	767.6	56	13.3	81	S	20	8.9	.....	.....	10s	.....	S	0	0	Cloudy	
Springfield, Massachusetts	30.08	764.0	30.21	767.3	33	0.6	61	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	27.08	687.8	30.08	764.0	44	6.7	52	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.14	765.5	30.20	767.1	34	1.1	61	SW	30	13.4	.....	5c	2s	W	SW	0	0	Fair	
Toledo, Ohio	29.02	737.1	29.70	754.4	42	5.6	83	S	7	3.1	.....	.....	10n	.....	Calm	0.12	3.0	Light rain	
Tucson, Arizona	27.73	704.3	30.28	769.1	35	1.7	46	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.07	763.8	30.10	764.5	67	19.9	94	S	14	6.3	.....	.....	10s	.....	S	0.28	7.1	Threatening	
Umatilla, Oregon	29.50	749.3	30.01	762.2	31.0	— 0.6	80	N	24	10.7	.....	.....	10n	.....	N	0.35	8.9	Light snow	
Unalashka, Aleutian Islands	.....	.....	.....	.....	35	1.7	90	SW	.....	.....	2	.....	10s	.....	SE	0	0	Cloudy	
Uvalde, Texas	29.22	742.2	30.05	763.3	46	7.8	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.71	754.6	29.97	761.2	53	11.7	97	W	2	0.9	.....	.....	10s	.....	W	0.90	22.9	Cloudy	
Virginia City, Montana	23.99	609.3	29.47	748.5	25	— 3.9	75	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Visalia, California	29.83	757.7	30.20	767.1	54.5	12.5	80	SE	.....	.....	.....	.....	10ks	.....	SW	0	0	Cloudy	
Washington, D. C.	30.08	764.0	30.20	767.1	36	2.2	80	S	6	2.7	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	39	3.9	78	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.10	764.5	30.18	766.6	59	15.0	70	SE	13	5.8	.....	.....	10s	.....	S	0	0	Threatening	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	43	6.1	59	SW	9	4.0	.....	10k	0	SW	.....	0	0	Cloudy	
Wood's Holl, Mass	30.24	768.1	30.28	769.1	37	2.8	71	S	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.82	732.0	30.24	768.1	8	—13.3	78	NW	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Yuma, Arizona	30.00	762.0	30.17	766.3	50	10.0	79	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28 41	721.6	29.86	758.4	36	2.2	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.00	762.0	30.05	763.3	72	22.2	81	Calm	0	0	.....	0	4ks	.....	SW	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.99	761.7	30.07	763.8	78	25.6	.....	E	15	6.7	.....	.....	.....	.....	.....	0.07	1.8	Cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	77	25.0	87	E	.....	.....	2	.....	10n	.....	.....	0.240	6.10	Raining	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.30	769.6	30.36	771.1	—37.0	—38.3	.....	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,396 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.83 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.14	765.5	55	12.8	50	10.0	93	SW?	0?	0?	.....	.....	10	.....	SW	0.09	2 3	.....	.....	Overcast	
Navy Yard, Pensacola, Fla.	.....	....	.....	.....	60	15.6	94	E	5	2.2	.....	.....	10	.....	S	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.15	765.8	55	12.8	29	— 1.7	89	SW	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Naval Hospital, Yokohama, Japan.....*	30.14‡	765.5‡	.....	.....	36	2.2	61	N	.....	.....	2	.....	0	.....	.....	0.04	1.0	.....	.....	Clear	
Adams, N. 2° 08', W. 80° 12'.....	30.00	762.0	81	27.2	80	26.7	91	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair	
Alaska, Mazatlan, Mexico.....	30.10	764.5	68	20.0	62	16.7	88	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Hazy	
Alliance, Villafranca, France.....	29.28‡	743.7‡	.....	.....	57	13.9	88	W	.....	.....	2	.....	7	.....	S;W	.....	.....	Heavy	S	Clearing	
Ashuelot, N. 22° 00', E. 113° 42'. ...	30.30‡	769.6‡	.....	.....	53	11.7	93	NNE	.....	.....	3	.....	10	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Canonicus, New Orleans, La.....	29.99	761.7	41	5.0	53	11.7	93	E	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Raining	
Colorado, New York, N. Y.....	30.24	768.1	36	2.2	36	2.2	100	SSW	2	0.9	.....	.....	10	.....	WSW	0	0	.....	.....	Hazy	
Constitution, N 47 40', W. 16° 05'.....	29.32‡	744.7‡	.....	.....	53	11.7	100	WNW	.....	.....	5	.....	4	.....	NW	.....	.....	Long	W	Fair	
Despatch, Constantinople, Turkey	29.87‡	758.7‡	.....	.....	63	17.2	67	SW	.....	.....	3	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Essex, S. 43° 53', W. 57° 19'.....	29.74	755.4	62	16.7	60	15.6	100	SW	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Franklin, Norfolk, Va.....	30.37	771.4	70	21.1	50	10.0	79	SSE	12	5.4	.....	.....	10	.....	W	0	0	.....	.....	Cloudy	
Gettysburg, Genoa, Italy	29.83‡	757.7‡	.....	.....	59	15.0	100	SSW	.....	.....	4	.....	10	.....	SW	Blank	Blank	Long	S;W	Overcast	
Hartford, Montevideo, Uruguay...	29.88	758.9	75	23.9	73	22.8	76	W	.....	.....	1	.....	2	.....	W	0	0	Smooth	.....	Fair	
Lackawana, Panama.....*...	29.77‡	756.1‡	.....	.....	77	25.0	91	W	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.....†	29.90	759.4	.....	.....	42	5.6	91	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Monocacy, Shanghai, China.....*	30.49‡	774.4‡	.....	.....	38	3.3	64	ENE	.....	.....	0–1	.....	2	.....	ENE	.....	.....	.....	.....	Fair	
Monongehela, Yokohama, Japan ....*..	30.15‡	765.8‡	.....	.....	31	— 0.6	100	NW	.....	.....	1	.....	1	.....	.....	Blank	Blank	.....	.....	D. clouds	
New Hampshire, Port Royal, S. C.....	30.15	765.8	59	15.0	58	14.4	100	SSE	13	5.8	.....	.....	10	.....	SW	0.4	10.	.....	.....	Rainy	
Onward, Callao, Peru..... ....†	30.03	762.8	.....	.....	70	21.1	90	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China.....	30.14	765.5	38	3.3	32	0.0	69	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Misty	
Passaic, Washington, D. C.....	.....	.....	.....	.....	36	2.2	80	S	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, S 19 30', W. 99° 45'.....	30.03‡	762.8‡	.....	.....	72	22.2	85	E	8	3.6	.....	.....	5	.....	E	.....	.....	Smooth	ESE	Showery	
Powhatan, Off San Juan, Porto Rico	30.20	767.1	80	26.7	80	26.7	73	E	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Quinnebaug, Villafranca, France.....	29.31‡	744.5‡	.....	.....	56	13.3	57	W	.....	.....	3–5	.....	2	.....	SW	.....	.....	Light ground	S	Cloudy	
Ranger, N. 34° 51', E. 139° 19'..*...	30.12‡	765.0‡	.....	.....	48	8.9	92	NNW	.....	.....	4	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Gibraltar.....	30.03‡	762 8‡	.....	.....	60	15 6	71	W	.....	.....	2–4	.....	10	.....	W	.....	.....	Mod'te	SW	Cloudy	
Rio Bravo, Brownsville, Texas.....	30.01	762.2	65	18.3	63	17.2	100	WSW	.....	.....	1	.....	Fog	.....	W	.....	.....	.....	.....	Foggy	
Santee, Annapolis, Md...	30.20‡	767.1‡	.....	.....	35	1.7	90	S	.....	.....	2	.....	10	.....	S	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa	30.15	765.8	63	17.2	32	0.0	.....	SW	5	2.2	.....	.....	8	.....	SSW	0	0	.....	.....	Cloudy	
Supply, N. 24° 11', W. 22° 05'.....	30.25‡	768.3‡	.....	.....	72	22 2	80	ENE	.....	.....	5	.....	5	.....	ENE	.....	.....	Long	NE	Fair	
Trenton Villafranca, France *...	30.28‡	769.1‡	.....	.....	57	13.9	69	W	.....	.....	2–4	.....	8	.....	W	0.02	0.5	.....	.....	Squally	
Tuscarora, Isla Grande, Mexico.....	29.98‡	761.5‡	.....	.....	68	20.0	74	NW	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.....	30.25‡	769.1‡	.....	.....	35	— 1.7	70	SW	25	11.2	.....	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Wyoming, Smyrna, Turkey.....	30.09	764.3	64	17.8	62	16.7	77	S	.....	.....	2–3	.....	2	.....	S	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 28° 12′, W. 106° 23′. †		30.01‡	762.2‡	60	15.6	94	Calm			0		0			0			Misty	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Granada N. 29° 55′, W. 116° 31′. †*		30 34‡	770.6‡	59	15.0	??	NW			6		0			0	Mod'ate	NW	Clear.	R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, S. 8° 16′, W. 168° 32′		29.92‡	760.0‡				NE			6				NE		Rough	NE	Fair	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is no known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. [illegible] N. 31° 46′, E. 152° 47′. *		29.50‡	749.3‡	61	16.1	94	SE			6		n		SW		Rough cross		Showery	J. A. Thompson, 3d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 48° 26′, W. 20° 37′		29.07	758.6	54.5	12.5		NNW			7		10		NW	Blank	9	W;NW	Thick	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 49° 29', W. 34° 53'....*		29.80‡	756.9‡	49	9.4	??	W			3		5		WSW	Blank	Mod'ate	NW	Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 44° 29', W. 46° 21'....†		29.09‡	738.9‡	38	3.3	90	NW			7		5		NW	Blank	Large	NW	Stormy.....	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 50° 54', W. 32° 33'		29.72‡	754.9‡	42	5.6		ENE			3		3s		S		Confused	NW; SW.	D. clouds.....	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

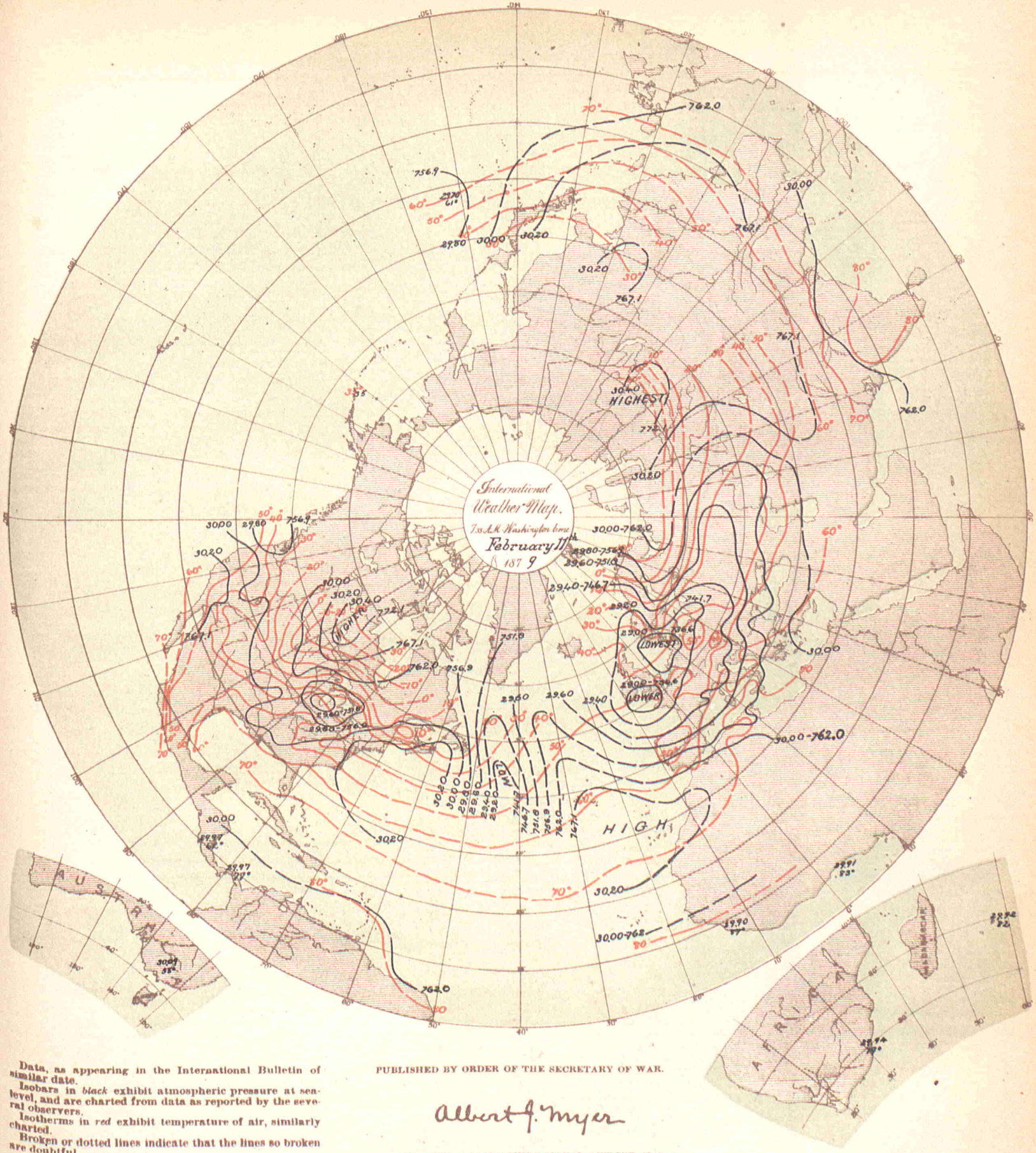
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 12, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.29	769 3	62.8	17.1	.....	NE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.18	766.6	63.7	17.6	68	WNW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.98	761.5	60.4	15.8	64	WSW	.....	.....	7	.....	2	.....	.....	0	0	Fair	Tourillere.
La Calle	.....	.....	29.91	759.8	53.1	11.7	87	W	.....	.....	7	.....	10	.....	.....	0.118	3.0	Covered	Foufrede.
Tunis	.....	.....	29.76	755.9	53.1	11.7	80	NW	.....	.....	6	.....	10	.....	.....	1.272	32.3	Raining	Jacques.
Sfax	.....	.....	29.94	760.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.07	763.7	52 7	11.5	46	W	.....	.....	7	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	29.97	761.1	49.1	9.5	84	W	.....	.....	5	.....	10	.....	.....	0.075	1.9	Covered	Watrin.
Geriville	.....	.....	30.06	763.5	47.5	8.6	92	N	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.08	764.1	56.5	13.6	33	NW	.....	.....	8	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.01	762.2	67.1	19.5	38	NW	.....	.....	6	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given on the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	28.91	734.2	29.44	747.8	58.1	14.5	56	SW	.....	.....	3	.....	3	.....	.....	0.016	0.4	.....	Prof. Ivan Stozir
Cracow, I. R. Observatory	28.54	724.8	29.31	744.4	38.5	3.6	77	WSW	.....	.....	3	.....	10	.....	.....	0.142	3.6	.....	Dr. Wierzbiski
Eperies	28.37	720.7	29.25	742.9	43.2	6.2	93	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.22	716.9	29.45	748.1	51.6	10.9	56	SSW	.....	.....	2	.....	5	.....	.....	0.010	0.25	.....	Andreas Rospini.
Hermannstadt	28.00	711.3	29.41	747.1	50.5	10.3	71	W	.....	.....	4	.....	5	.....	.....	0.010	0.25	.....	Prof. A. Gottschling.
Kremsmünster	28.17	715.4	29.51	749.6	48.7	6.5	77	WNW	.....	.....	8	.....	10	.....	.....	0.728	18.5	.....	Prof. C. Wagner.
Lemberg	28.21	716.6	29.19	741.3	46.0	7.8	82	S	.....	.....	2	.....	10	.....	.....	0.091	2.3	.....	Dr. T. Stanecki.
Pola	29.39	746.4	29.50	749.2	57.0	13.9	65	SSE	.....	.....	1	.....	0	.....	.....	0.067	1.7	.....	I.R.Hydrographic Office.
Szathmar	28.92	734.6	29.38	746.3	48.4	9.1	86	SE	.....	.....	2	.....	10	.....	.....	0.492	12.5	.....	Julius Csics, S. J.
Szegedin	29.13	740.0	29.41	747.1	46.4	8.0	89	SW	.....	.....	2	.....	10	.....	.....	0.205	5.20	.....	Karl Stancel.
Trieste	29.45	748.1	29.56	750.7	52.7	11.5	89	Calm	.....	.....	0	.....	1	.....	.....	0	0	Almost clear	F. Busin.
Vienna	28.72	729.5	29.43	747.6	47.3	8.5	69	W	.....	.....	5	.....	4	.....	.....	0.134	3.4	Raining	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 348.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.62	752.3	29.72	754.9	39.5	4.2	.....	NE	5	2.2	.....	.....	7	.....	.....	0	0	D. clouds.....	W. Boswell.
Ardrossan	29.70	754.4	29.79	756.7	38	3.3	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Foggy.....	William McNeil.
Armagh, Observatory	.....	.....	28.77?	730.7?	44.0	6.7	.....	W	7	3.1	.....	.....	5	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.56	750.8	40.4	4.7	.....	W	7	3.1	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton, (Sharples)	.....	.....	29.74	755.4	40.1	4.5	.....	W	12	5.4	.....	.....	7	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.34	745.2	29.73	755.1	42.1	5.6	.....	N	.....	.....	2	.....	8	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	81	27.2	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.74	755.4	44.0	6.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	29.73	755.1	44.0	6.7	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.59	751.6	29.72	754.9	41.4	5.2	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Daly, R. E.
Dartmoor	28.29	718.6	29.79	756.7	39.0	3.9	.....	N	.....	.....	1	.....	6	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	29.72	754.9	29.76	755.9	43	6.1	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.71	754.6	29.73	755.1	41	5.0	.....	N	.....	.....	3	.....	7	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.62	752.3	29.85	758.2	46.4	8.0	.....	NNW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.50	698.5	29.82	757.4	87.0	30.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. S. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.70	754.4	29.93	760.2	86	30.0	.....	S	.....	.....	.....	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.74	755.4	48	8.9	.....	WNW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.17	766.3	30.23	767.8	59.9	15.5	.....	N	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A. H. C.
Glasgow, Observatory	29.51	749.5	29.72	754.9	35.1	1.7	.....	W	.....	.....	1	.....	.....	.....	.....	.....	.....	Overcast.....	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.67	753.6	43	6.1	.....	NNW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.56	750.8	29.74	755.4	41.4	5.2	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.57	751.1	29.81	757.2	42.6	5.8	.....	NNW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	Dr. S. E. Hoskins, F.R.S
Helston	29.75	755.6	29.87	758.7	47	8.3	.....	S	.....	.....	2	.....	2c	.....	.....	0.2	5.	Fine.....	M. P. Moyle.
Holyhead	29.73	755.1	29.78	756.4	42	5.6	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	29.49	749.0	29.79	756.7	42.5	5.8	.....	N	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.72	754.9	29.76	755.9	42.9	6.1	.....	NNW	10	4.5	.....	.....	10	.....	.....	.....	.....	Misty.....	The Meteorological Of.
Leicester, Museum	29.49	749.0	29.75	755.6	42.2	5.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.71	754.6	29.78	756.4	66	18.9	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	Sergt. H. J. Beckert, A. H. C.
Nairn	29.63	752.6	29.72	754.9	36	2.2	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.98	761.5	67.0	19.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.55	750.6	29.74	755.4	44.6	7.0	.....	NNW	.....	.....	2	.....	3k	.....	NNW	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.24	742.7	29.77	756.1	40.5	4.7	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.77	756.1	42	5.6	.....	SW	.....	.....	1	.....	10n	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.72	754.9	29.80	756.9	42.3	5.7	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty.....	John Merrifield.
Roche's Point	29.76	755.9	29.80	756.9	47	8.3	.....	NNW	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded...	W. Kennedy.
Saint Ann's Head	29.63	752.6	29.80	756.9	43	6.1	.....	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.75	755.6	35.3	1.8	.....	SE	8	3.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.70	754.4	57.6	14.2	.....	SW	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds.....	W. H. Lyne.
Sheffield	29.46	748.3	29.75	755.6	45.0	7.2	.....	NW	.....	.....	2	.....	8	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	41.6	5.3	89	Calm	.....	.....	0	.....	6	.....	.....	0	0	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	29.35	745.5	29.76	755.9	40.4	4.7	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stratfield Turgiss	29.51	749.5	29.73	755.1	42.6	5.9	.....	NW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	C. H. Griffith, F. M. S.
Thurso	29.67	753.6	29.74	755.4	37	2.8	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	John Trotter.
Truro, Royal Institution	.....	.....	29.85	758.2	49	9.4	.....	N	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	28.80?	731.5?	28.83?	732.3?	49.8	9.9	.....	NNE	4	1.8	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Meteorological Of.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.75	755.6	36.5	2.5	.....	W	.....	.....	2	.....	10n	.....	.....	.....	.....	Sleeting.....	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.95	760.8	81.8	27.4	68	ESE	19.5	8.7	.....	6	3	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.00	762.0	30.09	764.3	59.0	15.0	70	SSE	7	3.1	.....	.....	0	.....	.....	0	0	Very fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.77	756.1	39	3.9	.....	Calm	.....	.....	0	3	3	E	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.67	753.6	34	1.1	.....	N	.....	.....	6	6	2	N	.....	.....	.....	.....	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
H. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile.
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5	29.96	761.0	63.5	17.5	78	SE			1	1s				0	0		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.19	741.5	29.24	742.7	36.3	2.4	100	SSW			2		10					Foggy
Farôe	29.32	744.8	29.34	745.3	31.5	— 0.3	85	NNW			5		10					
Godthaab, (Greenland)	29.27	743.5	29.32	744.6	17.4	— 8.1	77	ENE			2		10					
Stykkisholm, (Iceland)																		
Thorshavn, (Farôe)	29.65	753.2	29.69	754.1	35.2	1.8	84	SW			2		8					
Vestervig	29.23	742.5	29.40	746.8	29.6	— 1.4	96	N			4		10					Snowing

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.29	743.9	29.84	757.9	49.6	9.8	92	NNE			1		10			0.020	0.5	Covered	Collignon, Director.
Amiens, Normal School	29.58	751.2	29.69	754.0	41.7	5.4	81	WNW			3		10			0.071	1.8	Covered	Bonvallet, Director.*
Avignon, Normal School	29.58	751.2	29.65	753.2	56.5	13.6	60	SW			1		2		W	0	0	Light clouds	M. Giraud, Director.
Bar-sur-Seine	29.06	738.0	29.62	752.4	50.4	10.2	72	SW			1		8		SW	0.157	4.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.42	747.3	29.71	754.7	41.7	5.4	82	N			1		10		N	0.020	0.50	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.74	730.1	29.63	752.7	50.4	10.2	84	S			2		8		SW	0.55	14.	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.76	730.5	29.66	753.3	49.5	9.7	86	SW			2		k	S	S	0	0		M. Marlot, Director.
Bourges, Normal School	29.11	739.4	29.66	753.4	50.4	10.2	97	N			3		5	W	W	0.04	1.	Cloudy	A. Waquet, Director
Brest, Naval Observatory	29.54	750.3	29.78	756.5	50.0	10.0	81	N			3		10		N	0.197	5.00	Foggy	M.de Rermaree, Director
Carcassonne, Normal School	29.30	744.2	29.72	754.8	54.7	12.6	86	W			3		5	W	W	0.04	1.	Cloudy	September, Director.
Caen, Normal School	29.71	754.5	29.78	756.4	44.1	6.7	83	NW			2		10		E	0.166	4.2	Covered	M. Lair, Director.
Chartres, Normal School	29.07	738.3	29.64	752.9	44.6	7	85	NW			2		10		E			Raining	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.32	744.7	29.64	752.8	48.7	9.3	73	NW			3		8	NW	NW	0.035	0.9	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.28	718.2	29.62	752.3	54.0	12.2	54	W			1		10		W	0.047	1.2	Covered	Alluard, Director.
Commercy, Normal School	28.72	729.5	29.60	751.9	47.1	8.4	88	W			1		10k		W	0.047	1.2	Sprinkling	Dr. Coulet, Director
Commune de Gréasque*	28.61	724.2	29.65	753.2	53.1	11.7	59	NW			3		5		NW	0.205	5.2	Cloudy	M. Kina, Director.
Grenoble, Normal School	28.93	734.7	29.61	752.2	49.6	9.8	86	ENE			1		8kn		NW	0 47	12.	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.49	749.0	29.71	754.5	54.0	12.2	76	N			3		5		SW	0.004	0.1	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.37	746.1	29.69	754.0	49.6	9.8	95	N			5		8		N	0.020	0.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.72	729.6	29.64	752.9	50.5	10.3	72	S			2		5		W	0.55	14.	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.72	755.0	29.83	757.6	49.3	9.6	86	N			3			N	NW	0.173	4.4		Lt T. Carré, Director.
Mâcon, Normal School																			M. Galzin, Director
Mirecourt, Normal School	28.54	724.9	29.59	751.5	46.8	8.2	94	NE			1		k		SW	0	0		M. Barbier, Director.
Nismes, Normal School	29.45	748.0	29.65	753.1	59.0	15	56	SW			1		5		NE	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.61	726.7	29.67	753.6	53.9	12 0	76	S			1		n	S	S	0.177	4.5		M. Cantier, Director.
Puy de Dome (Summit) Obs	24.72	628.0			32.0	0.0	100	W			5					0.354	9.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.64	752.9	29.67	753.7	53.6	12.0	93	W			1		10	WNW	WNW	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.63	752.6	29.72	754.8	42.8	6.0	74	N			2		10		N	0.028	0.7	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.74	755.5	29.78	756.3	44.6	7.0	84	NNE			2		8	NNE	NNE	0.047	1.20	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.50	749.3	29.67	753.5	44.4	6.9	85	N			2		10		N	0.008	0.2	Covered	E. Renou, Director.
Tarbes, Normal School	28.85	732.7	29.93	760.1	48.2	9	61	SW			4		10			0.16	4.	Raining	T. Huguet, Director.
Versailles Observatory	29.10	741.4	29.67	753.5	46.0	7.8	97	S			2		10		SW	0.236	6.5	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.95	735.2	29.68	753.9	44.6	7.0		N			2		10			0.010	0.26	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.02	762.4	30.04	763.1	77.0	25										0	0		L'Abbé Marchesi.
Lyons, Observatory			29.65	753.2	48.6	9.2	67	ESE			1		8			0.177	4.5	Very cloudy	Mr. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis	24.55	623.5	29.86	758.5	41.0	5.0	66	SW			4		6		SW	0	0		M. Cave.
Nice			29.50	749.4	59 0	15.0	74	W			1		10			0.102	2.6	Hazy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.38	746.8			43.5	6.4	90	N			3		10		N	0.024	0.6		Marié Davy, Director.
Perpignan	29.63	752.5	29.78	755.2	58.1	14.5	49	NE	22.4	10.0			4		NW	0.217	5.5		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.54	562.4			29.0	— 5.0		WNW			6		10			0.508	12.9	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.04	737.5	29.75	755.7	49.1	9.5	86	WSW			6		9			0.146	3.7	Light rain	M. Mercadier Juller.
Tours	29.45	748.1	29.65	753.1	47.5	8.6	90	N			2		7		NNW	0.244	6.2		Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.38	771.6	30.40	772.2	40.1	4.5	76	SSE	5.4	2.4			8ck		W	0	0	Very cloudy	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.58	725.8	29.44	747.8	45.5	7.5	86	SW	.....	.....	4	.....	10	SW	.....	0.008	0.2	Foggy	Prof. Dr. Hoh.
Berlin	29.17	740.9	29.34	745.2	48.7	9.3	77	SW	.....	.....	4	.....	9	.....	.....	0	0	.....	Prof. Arndt.
Breslau	28.82	732.1	29.34	745.3	44.6	7.0	86	WNW	.....	.....	3	.....	10	.....	.....	0.922	23.42	.....	Royal University Obs'y
Carlsruhe	29.11	739.5	29.54	750.3	47.8	8.8	89	SW	.....	.....	2	.....	10	SW	.....	0.059	1.5	Light rain	Albert Senz.
Cassel	28.86	733.1	29.46	748.2	37.0	2.8	83	NW	.....	.....	4	.....	10	WNW	.....	0.088	2.24	Rain & Snow	Dr. H. Möhl.
Crefeld	29.41	747.1	29.58	751.2	37.4	3.0	79	N	.....	.....	3	.....	10	.....	.....	0.12	3.	.....	Director Lose.
Emden	.....	.....	.....	.....	35.2	1.8	92	NW	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	Prof. Prestel.
Frankfort on the Main	29.13	739.8	29.49	749.1	47.8	8.8	.....	SW	.....	.....	2	.....	9	.....	.....	0.008	0.2	.....	Physical Society.
Friedrichshafen	28.17	715.4	29.54	750.4	45.7	7.6	83	WSW	.....	.....	6	.....	10	W	.....	0.177	4.5	.....	M. Wilhelm.
Hamburg	29.30	744.1	29.37	746.9	33.1	0.6	87	NW	.....	.....	6	.....	10n	.....	.....	0.031	0.8	Squally	Captain F. Hegemann.
Kiel	29.27	743.4	29.28	743.8	34.5	1.4	88	WNW	.....	.....	4	.....	10	.....	.....	0.016	0.41	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.20	741.6	29.28	743.7	39.0	3.9	98	N	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	Prof. E. Luther.
Köslin	.....	.....	29.26	743.2	45.1	7.3	.....	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	28.98	736.0	29.40	746.7	47.3	8.5	79	WSW	.....	.....	3	.....	10	W	.....	.....	.....	Rainy	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.25	742.9	29.29	744.0	39.2	4.0	97	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	Skalweit.
Neufahrwasser	29.27	743.4	29.28	743.8	41.2	5.1	88	N	.....	.....	2	.....	7	.....	.....	0	0	.....	A. Lothes.
Posen	29.06	738.1	29.35	745.5	43.5	6.4	90	NW	.....	.....	1	.....	9	.....	.....	0.008	0.2	Light rain	Dr. Magener.
Strassburg (in Alsace)	29.03	737.3	29.57	751.1	53.2	11.8	65	W	.....	.....	3	.....	9	W	.....	0.035	0.91	Raining	Imp. University Observatory.
Stuttgart	28.57	725.6	29.47	748.6	49.1	9.5	70	W	.....	.....	1	.....	10	.....	.....	0.142	3.6	Raining	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.01	711.5	29.52	749.7	45.0	7.2	80	W	9	4	.....	.....	10	.....	W	0.303	7.7	Dense fog	Dr. Van Bebber.
Wustrow, Naval School	29.24	742.7	29.26	743.3	35.4	1.9	93	SW	.....	.....	2	.....	10s	.....	.....	0	0	.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Athens	29.40	746.8	29.80	756.8	60.6	15.9	.....	S	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Covered	Dr. J. F. J. Schmidt.
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Kurrachee	30.00	762.0	30.05	763.3	74.3	23.5	29	W	28	10.3	.....	.....	0	.....	.....	0	0	Blue sky	
Deesa	29.50	749.3	29.98	761.4	79.5	26.4	15	NW	11.5	5.1	.....	.....	3	WSW	.....	0	0	D. clouds	
Bombay	29.91	759.7	29.95	760.7	76.3	24.6	70	NW	15	6.7	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.94	709.8	29.94	760.5	81.6	27.6	.....	ENE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.26	743.3	30.03	762.8	66.8	19.3	29	Calm	1.5	0.7	.....	.....	2	.....	.....	0	0	Blue sky	
Belgaum	27.39	695.7	29.91	759.8	80.4	26.9	49	W	9	4.0	.....	.....	6	SSE	.....	0	0	D. clouds	
Roorkee	29.07	738.3	29.99	761.8	68.2	20.1	17	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Blue sky	
Agra	29.46	748.2	30.04	762.9	72.7	22.6	20	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.89	733.7	29.93	760.2	82.1	27.8	28	Calm	2.0	0.9	.....	.....	.....	.....	.....	0	0	Blue sky	
Lucknow	29.63	752.7	30.02	762.4	70.3	21.3	53	NW	1.7	0.8	.....	.....	.....	.....	.....	0	0	Blue sky	
Allahabad	29.69	754.0	30.01	762.1	68.5	20.3	47	Calm	1.5	0.7	.....	.....	2	W	.....	0	0	D. clouds	
Patna	29.78	756.4	29.97	761.2	67 4	19.7	66	SW	1.1	0.5	.....	.....	4	SW	SW	0	0	D. clouds	
Hazaribagh	27.91	709.0	29.97	761.2	68.8	20.4	84	WNW	8.6	3.8	.....	.....	1	.....	.....	0	0	.....	
Cuttack	29.86	758.4	29.94	760.5	82.0	27.8	48	N	1.9	0.8	.....	.....	2	.....	.....	0	0	D. clouds	
Calcutta (Alipore)	29.92	759.9	29.94	760.5	74.6	23.7	74	W	3.0	1.3	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.51	749.6	29.91	759.8	69.4	20.8	47	W	3.2	1.4	.....	.....	0	.....	.....	0.01	0.3	Blue sky	
Chittagong	29.88	759.0	29.98	761.4	72.8	22.7	80	WSW	5.4	2.4	.....	.....	0	.....	.....	0	0	Misty	
Sibsagar	29.61	752.0	29.95	760.8	64.0	17.8	80	ENE	3.1	1.4	.....	.....	4	.....	.....	0	0	Blue sky	
Jubbulpore	28.59	726.2	29.98	761.4	74.2	23.4	83	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.8 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,552 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.11	739.3	29.52	749.8	53.2	11.8	64	E	0.7	0.3	.....	.....	5	W	.....	0.287	7.3	.....	Prof. Giovanni Clodig.
Padua	29.39	746.6	29.50	749.4	52.3	11.3	76	NE	3.1	1.4	.....	.....	6	NNE	.....	0.102	2.6	.....	Prof. Dott. Lorenzoni
Milan	28.98	736.0	29.50	749.3	52.3	11.3	66	WNW	.....	.....	2	.....	4	N	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.62	726.9	29.53	750.1	50.9	10.5	62	NNW	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.61	701.2	29.52	749.8	52.3	11.3	42	NNW	.....	.....	2	.....	1	WNW	.....	0.150	3.8	.....	Prof. D. C. Bruno.
Genoa	29.33	744.9	29.52	749.8	58.1	14.5	68	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.30	744.1	29.55	750.6	57.9	14.4	59	W	.....	.....	2	.....	9	.....	.....	0.150	3.8	.....	Cav. F Meucci
Leghorn	29.42	747.2	29.50	749.3	57.4	14.1	70	W	15.0	6.7	.....	.....	7	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.44	747.7	29.49	749.0	58.3	14.6	59	SW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.40	746.7	29.57	751.1	59.0	15.0	72	S	9.8	4.4	.....	.....	8	.....	.....	0.315	8.0	.....	Prof. P. S. Ferrari.
Lecce	29.40	746.8	29.65	753.2	57.7	14.3	66	WNW	6.3	2.8	.....	.....	10	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.45	748.0	29.64	752.9	56.8	13.8	70	W	.....	.....	2	.....	10	NW	.....	0.102	2.6	.....	Prof. A. Pacinotti.
Cosenza	28.76	730.6	29.65	753.1	55.4	13.0	78	SW	4.3	1.9	.....	.....	10	.....	.....	0.386	9.8	.....	Prof. D. Conti.
Palermo	29.39	746.6	29.65	753.1	54.5	12.5	68	WSW	2.8	1.7	.....	.....	10	W	.....	0.118	3.0	.....	Prof. G. Cacciatore.
Syracuse	29.55	750.5	29.62	752.3	61.9	16.6	72	ENE	6.3	2.8	.....	.....	10	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.07	738.3	29.62	752.4	56.8	13.8	82	WSW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.22	767.6	30.24	768.1	36.9	2.7	76	N	3.2	1.4	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.07	763.8	30.28	769.1	40.4	4.7	75	NNE	0.5	0.2	.....	.....	1s	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.99	761.7	30.06	763.5	34.4	1.3	75	SE	4.9	2.2	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.5	30.45	773.3	34.2	1.2	46	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Prof. L. Perez
Leon	24.52	622.8	30.21	767.5	48.9	9.4	68	S	.....	.....	2	0	0	.....	.....	0	0	.....	Prof. M. Leal.
Mexico, Central Obs'y	23.14	587.7	30.38	771.7	41.0	5.0	62	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	39.7	4.3	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.07	763.8	30.08	764.0	67.6	19.8	93	S	.....	.....	2	0	0	.....	.....	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.18	614.2	30.28	769.0	41.0	5.0	48	ESE	.....	.....	.....	0	0	.....	.....	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	30.10	764.6	30.13	765.3	64.4	18.0	80	SW	0	0	.....	.....	1s	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute	23.45	595.5	30.20	767.0	38.1	3.4	73	E	13.4	6.0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.4	30.08	764.0	70.8	21.6	64	NE	.....	.....	1	.....	10	.....	.....	0	0	Covered	R. Banda, C. E.
San Juan E. Michapam	29.98	761.4	30.11	764.8	69.5	20.8	.....	E	.....	.....	1	.....	.....	.....	.....	0	0	Misty	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.6 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2291.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.08	738.7	29.08	738.7	47.8	8.8	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0.205	5.2	.....	
Groningen	29.47	748.5	29.52	749.9	37.0	2.8	.....	NW	.....	.....	2	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.58	751.3	29.58	751.3	36.5	2.6	.....	NW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Hellevoetsluis	29.61	752.0	29.61	752.0	39.9	4.4	93	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Utrecht	29.57	751.1	29.62	752.3	39.2	4.0	80	NNW	.....	.....	2	.....	8	.....	.....	0.012	0.3	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.36	745.7	29.41	747.1	35.6	2.0	68	NNW	27.1	12.1	.....	.....	0	.....	.....	0	0	.....	
Brônø	29.40	746.8	29.44	747.8	24.4	— 4.2	81	SE	18	8	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.36	745.7	29.51	749.6	25.7	— 3.5	69	ENE	7	3	.....	.....	5	.....	.....	0.008	0.2	.....	
Tromsø	29.31	744.5	29.36	745.6	24.1	— 4.4	56	SW	38	17	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.87	758.6	30.06	763.5	56 1	13.4	80	W	15.4	6.9	.....	.....	3	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.18	741.2	30.22	767.5	55.8	13.2	78	NW	17.4	7 8	.....	.....	5	NW	.....	0.165	4.2	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.27	768.9	30.36	771.1	62.6	17.0	61	SE	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.91	759.8	30.28	769.0	57.9	14.4	66	WNW	11.2	5.0	.....	.....	4	.....	.....	0.165	4.2	.....	The Staff.
Ponta Delgada, (Azores)	30.08	764.0	30.15	765.8	59.7	15.4	71	W	19.9	8.9	.....	.....	10	.....	.....	0.236	6.0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	2	W	D. Clouds ...	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa, N. 12° 07′, W. 16° 45′	1	.....	D. clouds....	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	1	.....	D. clouds.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	0	.....	Blue sky.....	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.75	730.3	29.17	741.0	41.4	5.2	98	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Misty.....	Astronomical Obs.
Wilna	28.87	733.4	29.30	744.1	39.7	4.3	98	E	2	1	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.15	740.3	29.39	746.6	31.3	— 0.4	100	ESE	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.58	751.8	29.60	751.7	15.3	— 9.3	94	ESE	20	9	.....	.....	10n	.....	.....	.....	.....	Light snow..	Central Physical Obs.
Kieff	28.71	729.3	29.36	745.7	35.8	2.1	100	SSE	9	4	.....	.....	10n	.....	.....	.....	.....	Raining.....	Physical Cabinet.
Nikolaiev	29.41	747.0	29.48	748.8	43.3	6.3	99	SSW	13	6	.....	.....	10n	.....	.....	.....	.....	Misty.....	Kurdakof.
Kertch	29.65	753.1	29.67	753.6	53.4	11.9	85	S	9	4	.....	.....	3	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.05	737.8	29.63	752.5	16.7	— 8.5	82	N	9	4	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.32	744.6	29.52	749 9	39.2	4.0	92	SSW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.16	766.1	30.18	766.6	— 8.0	—22.2	70	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.52	724.5	29.94	760 4	54.9	12.7	48	NNE	4	2	.....	.....	9ck	.....	.....	Blank	Blank	.....	Physical Observatory
Astrakhan	29.97	761 2	29.89	759.1	37.4	3.0	90	SSW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	29.10	739.1	29.58	751.4	34.3	1.3	90	S	2	1	.....	.....	10	.....	.....	.....	.....	Light snow..	Cand. Fatjanow.
Kasan	29.42	747.2	29.71	754.6	10.6	—11.9	79	NNE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.68	728.4	29.74	755.4	— 4.5	—20.3	79	N	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nukuss	29.71	754.6	29.95	760.7	45.7	7.6	34	SW	7	3	.....	.....	4cs	.....	.....	.....	.....	.....	
Tashkend	28.49	723.7	30.25	768.4	45.1	7.3	45	Calm	0	0	.....	.....	8	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.39	746.6	29.92	760.0	23.2	— 4.9	51	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.65	753 0	29.97	761.3	— 7.4	—21.9	82	SE	11	5	.....	.....	10	.....	.....	.....	.....	Snowing.....	Marks.
Peking, (China)	30.13	765.2	30.27	768.8	33.1	0.6	39	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.64	752.8	29.74	755.5	60.4	15.8	46	WNW	7.4	3.33	.....	.....	1ks	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.91	759.6	29.96	761 0	59.0	15.0	71	NW	8.6	3.84	.....	1	7	SE	.....	0.118	3.0	Rainy	Prof. Manuel de Navera
Burgos, Met. Obs'y	27.01	686.1	.....	.....	49.5	9.7	81	W	16.9	7.55	.....	.....	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perer.
Madrid, Royal Observatory	27.83	706.8	.....	.....	53.4	11.9	56	NW	24.6	11.0	.....	0	4	.....	.....	0.012	0.3	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.83	757.6	29.98	761.4	66.6	19.2	45	WNW	9.0	4.03	.....	.....	4	.....	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.19	741.5	30.10	764.5	53.8	12.1	84	W	5.0	2.22	.....	.....	9	.....	.....	0.555	14.1	Almost covd.	R. Gil Villanueva, Dir
Sub-Series																			
Havana, Cuba, W. I	29.99	761.6	30.05	763.3	70.2	21.2	69	NW	10.7	4.8	.....	9pc	2k	SW	NW	1.201	30.5	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.95	760.8	30.01	762.2	79.7	26.5	76	ENE	0.4	0.2	.....	.....	2s	.....	E	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.20	767.0	30.30	769.6	59.4	15.2	78	WNW	15.5	6.9	.....	0	8	.....	W	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I	29.99	761.7	30.08	764.0	75.2	24.0	97	SE	7.8	3.55	.....	4k	3k	E	E	0.010	0.25	Cloudy.....	Leonardo de Tejeda, Ch'f Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.83	757.7	29.87	758.7	4.6	—15.2	.....	SE	.....	.....	2	.....	10	.....	.....	0.118	3.0	Snowing.....	
Umea	29.67	753.6	29.72	754.9	7.9	—13.4	100	E	.....	.....	4	.....	10	.....	.....	0.020	0.5	Snowing...	
Hernosand	29.58	751.4	29.63	752.7	12.0	—10.6	93	N	.....	.....	5	.....	10	.....	.....	0.055	1.4	Snowing.....	
Stockholm	29.20	743.1	29.43	747.6	22.6	— 5.2	96	NNE	.....	.....	4	.....	10	.....	.....	0.098	2.5	.....	
Wisby	29.26	743.3	29.32	744.8	33.1	0.6	89	E	.....	.....	2	.....	10	.....	.....	0.287	7.3	.....	
Sub-Series.																			
Upsala	29.38	746.3	29.46	748.2	21.7	— 5.7	93	N	8.5	3.8	.....	.....	10	.....	.....	0.006	0.15	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.22	716.8	29.65	753.2	51.8	10.7	62	SW	.....	.....	3	.....	6	.....	.....	0.098	2.5	Cloudy.....	The Observatory.
Zurich	27.97	710.5	29.63	752.5	49.3	9.6	76	W	.....	.....	2	.....	8	.....	.....	0.457	11.6	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —9.6 mm.; Thermometer, +7.2 cent.; Relative Humidity, —10 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.74	755.5	62.2	16.8	47	SW	27	12.0	.....	.....	6	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.67	753.6	63.1	17.3	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	Covered...	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.04	763.0	30.15	765.9	68.9	20.5	64	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.63	752.6	29.70	754.4	22.2	— 5.4	93	NE	2.5	1.1	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	28.97	735.8	29.29	744.0	21	— 6.1	.....	Calm	0	0	.....	.....	10n	.....	NE	1.00	25.4	Heavy snow	W. R. Bigg.
*Chatham, N. B	29.61	752.1	29.68	753.9	22	— 5.6	97	NE	12	5.4	.....	.....	10n	.....	NE	1.06	26.9	Heavy snow	G. A. Blair.
Charlottetown, P. E. Island	29.64	752.8	29.68	753.0	37	2.8	93	S	20	8.9	.....	.....	10n	.....	Calm	0.360	9.14	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	28.98	736.1	29.18	741.2	19.6	— 6.9	100	E	.....	.....	1	.....	10n	.....	.....	0.80	20.3	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.43	747.5	29.48	748.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	29.66	734.4	29.68	753.9	16	— 8.9	91	E	40	17.9	.....	.....	10n	.....	.....	0.18	4.6	Heavy snow	J. McWilliams.
Fredericton, N. B	29.45	748.0	29.52	749.8	32.0	0.0	93	W	4	1.8	.....	.....	10n	.....	.....	3.00	76.2	Heavy rain..	Prof. Harrison.
*Fort Garry Manitoba	29.51	749.5	30.50	774.7	—26	—32.2	100	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	28.39	721.1	29.56	750.8	16	— 8.9	.....	NW	.....	.....	2	.....	10n	.....	.....	Inap.	Inap	Light snow..	James Grant.
*Halifax, N. S	29.59	751.6	29.73	755.1	40	4.4	98	S.	25	11.2	.....	.....	10n	.....	.....	0.020	0.51	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.08	738.6	29.47	748.5	19.7	— 6.8	92	NW	.....	.....	2	10cs	0	NW	.....	0.27	6.9	Snowing.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	28.94	735.1	29.28	743.7	24	— 4.4	95	Calm	0	0	.....	.....	10n	.....	Calm	0.65	16.5	Light snow..	S. Woods, M. A.
Little Glace Bay, N. S	29.85	758.2	29.88	758.9	38.0	3.3	96	SW	6	2.7	.....	.....	10n	.....	.....	0.150	3.81	Cloudy.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	28.97	735.8	29.17	740.9	19	— 7.2	97	NE	20	8.9	.....	.....	10n	.....	.....	1.00	25.4	Heavy snow	C. H. McLeod, C. E.
*Parry Sound, Ontario	28.76	730.5	29.52	749.8	3	—16.1	82	N	12	5.4	.....	.....	10n	.....	SE	0.70	17.8	Light snow..	Rev. R. Mosley.
Peterboro, Ontario	28.56	725.4	29.35	745.5	13.1	—10.5	78	W	.....	.....	.....	.....	10n	.....	.....	0.30	7.6	Overcast.....	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	29.79	756.7	29.84	757.9	42.6	5.8	.....	SW	7	3.1	.....	.....	.....	.....	.....	Inap.	Inap.	Cloudy	Peter Grant.
Port Stanley, Ontario	28.92	734.6	29.61	752.1	21	— 6.1	85	SW	12	5.4	.....	.....	10n	.....	NW	0.40	10.2	Light snow..	M. Payne.
*Quebec, Quebec	28.98	736.1	29.32	744.7	16	— 8.9	100	E	.....	.....	8	.....	10n	.....	E	0.85	21.6	Light snow..	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.89	759.2	25	— 3.9	76	NW	.....	.....	2	0	0	.....	.....	0.08	2.0	Clear.....	Dr. Gove.
St. John, N. B	29.82	744.7	29.49	749.0	40	4.4	91	S	23	10.3	.....	.....	10n	.....	.....	1.13	28.7	Heavy rain..	G. Murdock, C. E.
*Saugeen, Ontario	28.84	732.5	29.60	751.8	10	—12.2	82	NW	22	9.8	.....	.....	10s	.....	.....	0.43	10.9	Cloudy.....	K. Stewart.
Stayner, Ontario	28.64	727.4	29.48	748.8	11	—11.7	88	N	15	6.7	.....	.....	10n	.....	N	0.52	13.2	Light snow..	R. J. Cole.
Stratford, Ontario	28.19	716.0	29.56	750.8	13.0	—10.6	94	NW	13.6	6.1	.....	.....	10s	.....	.....	0.57	14.6	Light snow..	C. J. MacGregor, M. A.
*Sydney, C. B	29.85	758.2	29.89	759.2	40	4.4	90	SW	16	7.2	.....	.....	10n	.....	SW	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.02	737.1	29.42	747.2	19	— 7.2	92	NW	20	8.9	.....	.....	10n	.....	W	0.60	15.2	Threatening	Magnetic Observatory.
Windsor, N. S	29.59	751.6	29.68	753.9	42	5.6	96	S	31	13.9	.....	.....	10n	.....	.....	0	0	Overcast.....	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	90	S	.....	.....	.....	.....	10	.....	.....	0.10	2.5.	Threatening	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inch's.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim's.	WEATHER.	OBSERVER.
Albany, New York	28.97	735.8	29.20	741.7	41	5.0	100	S	7	3.1			Fog			0.08	2.0	Fog & Lt. rain	
Alpena, Michigan	29.00	736.6	29.68	753.9	16	— 8.9	83	NW	8	3.6			10n		Calm	1.24	31.5	Light snow	
Atlanta, Georgia	28.78	731.0	29.94	760.5	43	6.1	58	W	15	6.7		2cs	Sm'e	Calm	Calm	0.09	2.3	Clear	
Atlantic City, New Jersey	29.47	748.5	29.49	749 0	45	7.2	84	NW	23	10.3		5k	0	W		0.85	21.6	Fair	
Augusta, Georgia	29.75	755.6	29.92	760.0	52	11.1	66	NW	5	2.2		0	0			0.59	15.0	Clear	
Baltimore, Maryland	29.54	750.3	29.59	751.6	43	6.1	59	W	10	4.5		5k	2s	W	W	0.61	15.5	Fair	
Barnegat, New Jersey	29.40	746.7	29.43	747.5	42	5.6	100	W	20	8.9			10n		NW	1.86	47.2	Light rain	
Bismarck, Dakota	28.50	723.9	30.35	770.9	—21	—29.4	100	NW	12	5.4		0	0			0.06	1.5	Clear	
Boerne, Texas	28.55	725.2	29.88	758.9	47	8.3	62	NW	3	1.3		0	0			0	0	Clear	
Boise City, Idaho	26.92	683.8	29.68	758.9	50	10.0	71	S	12	5.4			10s		SW	0.38	9.7	Cloudy	
Boston, Massachusetts	29.10	739.1	29.25	742.9	46	7.8	100	S	18	8.0			10n		S	1.40	35.6	Light rain	
Brackettville, Texas	28.89	733.8	29.93	760.2	52	11.1	54	Calm	0	0		10cs	0	SW		0	0	Cloudy	
Breckenridge, Minnesota	29.18	741.2	30.34	770.6	—15	—26.1	100	N	21	9.4		0	0			0.02	0.5	Clear	
Brownsville, Texas	30.00	762.0	30.07	763.8	53	11.7	94	E	3	1.3			Fog		Calm	0	0	Foggy	
Buffalo, New York	28 68	728.5	29.38	746.2	25	— 3.9	100	W	33	14.8			10n		W	0.76	19.3	Light snow	
Burkes, Arizona					47	8.3	8	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	28.89	733.8	29.17	740.9	29	— 1.7	89	Calm	0	0			10n		Calm	0.39	9.9	Light rain	
Cairo, Illinois	29.58	751.3	29.98	761.5	36	2.2	80	SE	1	0.4			10s		W	0	0	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.39	644.9	30.09	764.3	43	6.1	51	E	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					37	2.8	45	Calm			0	2c	0	Calm		0	0	Clear	
Campo, California	27.59	700.8	30.16	766.1	36	2.2	90	SW	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	29.69	754.1	29.69	754.1	53	11.7	93	W	9	4.0			10s		SW	1.61	40.9	Cloudy	
Cape Henry, Virginia	29.58	751.3	29.60	751.8	47	8.3	62	NW	2	0.9		0	8s		NW	0.72	18.3	Cloudy	
Cape Lookout, N. Carolina	29.71	754.6	29.73	755.1	49	9.4	93	W	16	7.2			10s		W	1.85	47.0	Cloudy	
Cape May, New Jersey	29.48	748.8	29.51	749.5	40	4.4	82	W	28	12.5		5cs	2s	SW	W	1.19	30.2	Fair	
Castroville, Texas	29.24	742.7	29.97	761.2	44	6.7	68	W	4	1.8		2c	0	Calm		0	0	Fair	
Charleston, South Carolina	29.81	757.2	29 86	758.4	52	11.1	79	W	6	2.7		8c	0	W		1.79	45.5	Fair	
Cheyenne, Wyoming	23.91	607.3	29.85	758.2	14	—10.0	82	E	10	4.5		8cs	0	W		0	0	Cloudy	
Chicago, Illinois	29.09	738.9	29.61	757.2	26	— 3.3	75	SW	1	0.4			10n		Calm	0.19	4.8	Light snow	
Cincinnati Ohio	29.23	742.4	29.90	759.4	33	0.6	79	W	8	3.6			10n		W	0.09	2.3	Light snow	
Cleveland, Ohio	28.99	736 3	29.74	755 4	23	— 5.0	73	SW	22	9.8			10ks		W	0.30	7.6	Cloudy	
Coleman City, Texas	28.16	715.3	29.84	757.9	45	7.2	61	S	8	3.6		10cs	0	NW		0	0	Cloudy	
Columbus, Ohio	28.95	735.3	29.81	757.2	30	— 1.1	68	W	17	7.6			10ks		W	0.05	1.3	Cloudy	
Corpus, Texas	28.08	713.2	29.50	756.9	40	4.4	80	SW	4	1.8		5c	0	SW		0	0	Fair	
Corsicana, Texas	29.46	748.3	29.94	760.5	48	8 9	63	S	9	4.0		1cs	0	Calm		0	0	Clear	
Davenport, Iowa	29.23	742.4	29.90	759.4	23	— 5.0	86	NW	9	4.0			10n		Calm	0.22	5.6	Light snow	
Deadwood, Dakota	25.36	644.1			—10	—23.3	76	N	4	1.8			10s		Calm	0	0	Cloudy	
Decatur, Texas	28.74	730.0	29.91	759.7	49	9.4	86	SW	10	4.5		5c	0	SW		0	0	Fair	
Denison, Texas	29.09	738.9	29.88	758.9	47	8.3	62	SE	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.71	627.6	29.93	760.2	18	— 7.8	81	N	12	5.4		5ck	2s	Calm	Calm	0	0	Fair	
Des Moines, Iowa	29.18	741.2	30.15	765.8	3	—16.1	73	NW	15	6.7			10s		NW	0.50	12.7	Cloudy	
Detroit, Michigan	29.02	737.1	29.72	754.9	18	— 7.8	68	W	14	6.3		8k	0	W		0.35	8.9	Fair	
Dodge City, Kansas	27.46	697.5	29.95	760.7	12	—11.1	80	N	40	17.9		0	2s		N	0	0	Fair	
Dubuque, Iowa	29.18	741.2	29.93	760.2	12	—11.1	61	N	10	4.5		0	5ks		N	0.24	6.1	Fair	
Duluth, Minnesota	29.26	743.2	30.01	762.2	2	—16.7	86	NW	26	11.6			10s		NW	0.17	4.3	Cloudy	
Eagle Pass, Texas	29.20	741.7	29.96	761.0	47	8.3	85	Calm	0	0		1c	0	Calm		0	0	Clear	
Eastport, Maine	29.34	745.2	29.41	747.0	42	5.6	95	S	25	11.2			10n		S	0.45	11.4	Heavy rain	
Edinburg, Texas					44	6.7	92	Calm			0	0	0			0	0	Clear	
El Paso, Texas	26.32	668.5			44	6.7	30	W	9	4.0		0	0			0	0	Clear	
Erie, Pennsylvania	28.85	732.8	29.58	751.3	24	— 4.4	87	W	26	11.6			10n		Calm	0.02	15.7	Light snow	
Escanaba, Michigan	29.11	739.4	29.80	756.9	14	—10.0	82	N	6	2.7			10s		N	0	0	Cloudy	
Florence, Arizona	28.65	727.7	30.25	768.3	43	6.1	67	W	3	1.3		0	0			0	0	Clear	
Fort Buford, Dakota	28.33	719.6			—32	—35.6	Inap.	Calm			0	0	0			0.03	0.8	Clear	
Fort Craig, New Mexico	25.58	649.7	29.64	752.8	32	0.0	69	N	1	0.4		0	0			0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	57	13.9	23	W	10	4.5		5c	0	NE		0	0	Fair	
Fort Gibson, Indian Ter	29.38	746 2	29.93	760.2	37	2.8	81	S	8	3.6		2c	2s	Calm	S	0	0	Fair	
Fort Griffin, Texas	28.65	727.7	29.93	760 2	46	7.8	54	NW	4	1.8		0	2s		Calm	0	0	Clear	
Fort Keogh, Montana	27.58	700.5			—10	—23.3	54	N	1	0.4			10s		Calm	0 17	4.3	Cloudy	
Fort McKavett, Texas	27.75	704.8	29.69	754.1	47	8.3	48	SW	4	1.8		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.70	729.0	29.83	757.7	40	4.4	82	NW	4	1.8		0	2s		Calm	0	0	Fair	
Fort Stevenson, Dakota	25.49	723.6			—26	—32.2	100	NW			4	1c	0	NW		0.05	1.3	Fair	
Fredericksburg, Texas	28.24	717.3	29.78	756.4	57	13.9	41	Calm	0	0		8cs	0	Calm		0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.8	59	15.0	88	S	7	3.1		2c	0	Calm		0	0	Clear	
Graham, Texas	28.83	732.3	29.91	759.7	37	2.8	91	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.08	738.6	29.76	755.9	23	— 5.0	78	E	7	3.1			10s		Calm	0.28	7.1	Cloudy	
Indianapolis, Indiana	29.05	737.9	29.85	758.2	30	— 1.1	78	Calm	0	0			10n		Calm	0.10	2.5	Light snow	
Indianola, Texas	30.03	762.8	30.06	763.5	54	12.2	87	SW	6	2.7		0	0			0	0	Clear	
Jacksboro, Texas	28.74	730.0	29.88	758.9	48	8.9	56	W	12	5.4		5c	0	Calm		0	0	Fair	
Jacksonville, Florida	29.96	761.0	29.98	761.5	55	12.8	81	W	3	1.3		0	0			0.38	9.7	Clear	
Keokuk, Iowa	29.25	742.9	29.90	759.4	25	— 3.9	87	W	19	8.5			10n		NW	0.08	2.0	Light snow	
Key West, Florida	30.00	762.0	30.03	762.8	66	18.9	84	NW	18	8.0		8cs	1ks	Calm	Calm	1.55	39.4	Cloudy	
Kittyhawk North Carolina	29.60	751.8	29.63	752.6	49	9.4	78	W	18	8.0		8cs	0	NW		1.25	31.7	Fair	
Knoxville, Tennessee	28.95	735.3	29.99	761.7	33	0.6	75	W	7	3.1		8k	2s	W	W	0.20	5.1	Cloudy	
La Crosse, Wisconsin	29.11	739.4	29 90	759.4	15	— 9.4	82	W	9	4.0			10n		Calm	0.07	1.8	Light snow	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	34	1.1	79	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.60	751.8	29.94	760.5	48	8.9	78	Calm	0	0		0	0			0	0	Clear	
Leavenworth, Kansas	29.20	741.7	30.11	764.8	15	— 9.4	66	N	30	13.4			10s			0	0	Cloudy	
Los Angeles, California	29.87	758.7	30.22	767.6	54.7	12.6	93	Calm	0	0			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.35	745 5	29.93	760.2	34	1.1	79	SW	4	1.8			10s;sm'		SW;Calm	0.02	0.5	Cloudy	
Lynchburg, Virginia	29.04	737 6	29.73	755.1	40	4.4	63	W	6	2.7		0	0			0.35	8.9	Clear	
Madison, Wisconsin	28.78	731.0	29.81	757.2	21	— 6.1	86	W	6	2.7			10n		Calm	0.31	7.9	Light snow	
Marquette, Michigan	29.08	738.6	29.82	757.4	18	— 7.8	100	NE	8	3.6			10n		Calm	0.30	7.6	Light snow	
Mason, Texas	28.34	719.8	30.12	765.0	52	11.1	47	W	2	0.9		0	0			0	0	Clear	
Memphis, Tennessee	29.64	752.8	29.97	761.2	38	3.3	71	SE	2	0.9		1cs	Sm'e	Calm	Calm	0	0	Smoky	
Milwaukee, Wisconsin	29.00	736.6	29.77	756.1	18	— 7.8	84	NW	2	0.9			10s		Calm	0.50	12.7	Cloudy	
Mobile, Alabama	30.06	763.5	30.10	764.5	49	9.4	93	N	3	1.3		1c	0	NW		0.50	12.7	Clear	
Montgomery, Alabama	29.81	757.2	30.05	763.3	45	7.2	76	Calm	0	0		0	Fog		Calm	0.04	1.0	Foggy	
Morgantown, West Virginia	28.64	727.4	29.70	754.4	35	1.7	70	SW	24	10.7			10ks		SW	0.79	20.1	Cloudy	
Mt. Washington, N. H.	23.00	584 2	29.36	745.7	12	—11.1	100	W	48	21.5			10n		W	0.85	21.6	Light snow	
Nashville, Tennessee	29.41	747.0	29.96	761.0	36	2.2	71	Calm	0	0		0	0			0.01	0.3	Clear	
New Haven, Connecticut	29.17	740.9	29.28	743.7	44	6.7	92	SW	14	6.3			Fog		Calm	2.01	51.1	Foggy	
New London, Connecticut	29.23	742.4	29.28	743.7	45	7.2	96	SW	14	6.3			10n		Calm	1.48	37.6	Light rain	
New Orleans, Louisiana	30.02	762.5	30 08	764.0	54	12.2	87	Calm	0	0		0	Sm'e		S	0.10	2.5	Dense smoke	
Newport, Rhode Island	29.24	742.7	29.29	744.0	43	6.1	100	S	16	7.2			10n		Calm	0.89	22.6	Heavy rain	
New York, New York	29.21	741.9	29.39	746.5	42	5.6	91	W	22	9.8			10n		Calm	1.40	35.6	Light rain	
Norfolk, Virginia	29.58	751.3	29.64	752.8	49	9.4	71	W	16	7.2			10s		Calm	0.89	22.6	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.25	692.1	30.13	765.3	0	—17.8	70	NW	24	10.7	...	...	10s	...	NW	0	0	Cloudy	
Olympia, Washington Ter.	29.45	748.0	29.48	748.8	35.2	1.8	90	S	3	1.3	...	...	10n	...	Calm	2.06	52.3	Light rain	
Omaha, Nebraska	29.03	737.3	30.26	768.6	2	—16.7	72	NW	24	10.7	...	0	8s	...	NW	0.03	0.8	Cloudy	
Oswego, New York	28.97	735.8	29.29	744.0	37	2.8	71	W	21	9.4	...	...	10s	...	W	0.63	16.0	Cloudy	
Pembina, Dakota	29.48	48.8	30.47	773.9	—24	—31.1	100	NW	14	6.3	...	0	0	...	...	0.05	1.3	Clear	
Philadelphia, Pa	29.41	747.0	29.46	748.3	43	6.1	75	W	16	7.2	...	5k	0	NW	...	0.53	13.5	Fair	
Phœnix, Arizona	28.99	736.3	30.55	783.6	48	8.9	78	SE	...	...	1	0	0	...	...	0	0	Clear	
Pike's Peak, Colorado	17.58	446.5	29.80	756.9	10	—12.2	38	W	60	26.8	...	8cs	0	NW	...	Inap.	Inap.	Fair	
Ploche, Nevada	24.11	612.4	29.88	758.9	38	3.3	81	S	12	5.4	...	...	10s	...	Calm	0.01	0.3	Cloudy	
Pittsburg, Pennsylvania	28.83	732.3	29.65	753.1	31	— 0.6	79	W	16	7.2	...	...	10n	...	W	0.46	11.7	Light snow	
Port Huron, Michigan	28.97	735.8	29.66	753.4	15	— 9.4	82	W	16	7.2	...	0	0	...	...	0.38	9.7	Clear	
Portland, Maine	29.20	741.7	29.25	742.9	45	7.2	92	S	24	10.7	...	...	10n	...	...	1.14	29.0	Light rain	
Portland, Oregon	29.59	751.6	29.69	754.1	38.3	3.5	94	SE	4	1.8	...	0	8ks	...	SW	2.80	71.1	Threatening	
Prescott, Arizona	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Pilot Point, Texas	29.12	739.6	29.96	761.0	49	9.4	37	SE	7	3.1	...	2k	0	S	...	0	0	Fair	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	62	16.7	83	NW	18	5.8	...	...	10ks	...	NW	0.75	19.1	Cloudy	
Red Bluff, California	29.59	751.6	29.94	760.5	67	18.9	87	SE	30	13.4	...	0	8ks	...	SE	0.64	16.3	Fair	
Rio Grande City, Texas	29.86	758.4	30.08	764.0	54	12.2	74	E	2	0.9	...	0	0	...	...	0	0	Clear	
Rochester, New York	28.67	728.2	29.27	743.4	35	1.7	90	W	37	16.5	...	...	10s	...	W	0.40	10.2	Cloudy	
Roseburg, Oregon	29.25	742.9	29.81	757.2	61.0	10.6	79	SW	4	1.8	...	...	10s	...	Calm	0.51	13.0	Cloudy	
Sacramento, California	29.98	761.5	30.07	763.8	58	14.4	94	SE	11	4.9	...	...	10n	...	Calm	0.82	20.8	Light rain	
St. Louis, Missouri	29.32	744.7	29.91	759.7	34	1.1	79	S	6	2.7	...	...	10s	...	Calm	Inap.	Inap.	Cloudy	
St. Marks, Florida	30.03	762.8	30.04	763.0	49	9.4	93	NW	4	1.8	...	0	0	...	...	0.69	17.5	Clear	
St. Paul, Minnesota	29.07	738.4	29.96	761.0	—10	—12.2	79	NW	16	7.2	...	...	10s	...	NW	0.02	0.5	Cloudy	
Salt Lake City, Utah	25.59	650.0	29.92	760.0	45	7.2	68	SE	6	2.7	...	...	10ks	...	W	0.13	3.3	Threatening	
San Antonio, Texas	29.32	744.7	29.91	759.7	51	10.6	72	Calm	0	0	...	0	0	...	...	0	0	Clear	
San Diego, California	30.15	765.8	30.22	767.6	56	13.5	97	N	10	4.5	...	...	10s	...	Calm	0	0	Cloudy	
Sandusky, Ohio	29.06	738.1	29.75	755.6	25	— 3.9	50	W	30	13.4	...	...	10s	...	NW	0.18	4.6	Cloudy	
Sandy Hook, New Jersey	29.36	745.7	29.89	746.5	42	5.6	83	NW	24	10.7	...	...	10n	...	NW	1.18	30.0	Light rain	
San Francisco, California	30.02	762.5	30.08	764.0	59	15.0	82	SW	19	8.5	...	...	10n	...	Calm	1.17	29.7	Light rain	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	31	— 0.6	58	N	5	2.2	...	2cs	0	Calm	...	0	0	Fair	
Savannah, Georgia	29.84	757.9	29.93	760.2	53	11.7	80	NW	8	3.6	...	2c	0	W	...	0.60	15.2	Fair	
Shreveport, Louisiana	29.74	755.4	29.96	761.0	50	10.0	79	S	1	0.4	...	0	2s	...	Calm	0	0	Fair	
Silver City, New Mexico	24.35	618.5	30.66	778.8	40	4.4	56	NW	4	1.8	...	2c	0	Calm	...	0	0	Fair	
Smithville, North Carolina	29.78	756.4	29.82	757.4	60	10.0	100	W	6	2.7	...	5cs	0	S	...	2.67	67.8	Fair	
Springfield, Massachusetts	29.12	739.6	29.25	742.9	43	6.1	83	S	6	2.7	...	...	10n	...	S	1.59	40.4	Light rain	
Stockton, Texas	29.98	685.3	29.98	761.5	47	8.3	48	SW	12	5.4	...	0	0	...	...	0	0	Clear	
Thatcher's Island, Mass	29.23	742.4	29.28	743.7	48	8.1	100	S	14	6.3	...	...	10n	...	SW	0.69	17.5	Heavy rain	
Toledo, Ohio	29.03	737.3	29.74	755.4	27	— 2.8	88	W	12	5.4	...	2c	5s	NW	W	0.10	2.5	Clearing	
Tucson, Arizona	27.68	703.1	30.23	767.8	44	6.7	59	S	3	1.3	...	0	0	...	...	0	0	Clear	
Tybee Island, Georgia	29.89	759.2	29.92	760.0	52	11.1	86	NW	13	5.8	...	5c	0	W	...	0.77	19.6	Fair	
Umatilla, Oregon	29.57	751.1	30.09	764.3	25 0	— 3.9	87	SE	10	4.5	...	...	10s	...	W	0.70	17.8	Cloudy	
Unalashka, Aleutian Islands	...	...	...	...	37	2.8	90	SE	...	...	2	...	10s	...	SE	Inap.	Inap.	Cloudy	
Uvalde, Texas	29.14	740.1	29.97	761.2	45	7.2	76	Calm	0	0	...	5c	0	Calm	...	0	0	Fair	
Vicksburg, Mississippi	29.77	756.1	30.03	762.8	49	9.4	78	S	8	3.6	...	1cs	0	Calm	...	0	0	Clear	
Virginia City, Montana	23.97	608.8	29.45	748.0	0	—17.8	100	Calm	0	0	...	...	10n	...	Calm	0.27	6.9	Light rain	
Visalia, California	29.81	757.2	30.18	766.6	59	15.0	88	Calm	0	0	...	...	10ks	...	Calm	0.01	0.3	Cloudy	
Washington, D. C.	29.48	748 8	29.69	754.6	41	5.0	49	NW	17	7.6	...	0	5ks	...	W	0.73	18 5	Fair	
Wickenburg, Arizona	...	...	...	...	41	5.0	82	N	...	...	1	2cs	0	Calm	...	0	0	Fair	
Wilmington, N. Carolina	29.71	754.6	29.78	756.4	50	10.0	93	W	9	4.0	...	5cs	0	Calm	...	1.80	45.7	Fair	
Winnemucca, Nevada	25.55	649.0	29.91	759.7	49	9.4	64	SW	18	8.0	...	...	10ks	...	SW	Inap.	Inap.	Cloudy	
Wood's Holl, Mass	29.26	743.2	29.30	744.2	44	6.7	100	S	24	10.7	...	...	10n	...	...	0.45	11.4	Heavy rain	
Yankton, Dakota	28.97	735.8	30.55	776.0	— 7	—21.7	80	NW	25	11.2	...	0	Haze	...	Calm	0.14	3.6	Clear	
Yuma, Arizona	29.94	760.5	30.11	764.8	51	10.6	86	Calm	0	0	...	0	0	...	...	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.36	720.3	29.77	756.1	46	7.8	85	...	...	...	...	...	...	...	...	...	...	...	J. B. Gordon.
Havana, Cuba, W. I	30.00	762.0	30.05	763.3	72	22.2	75	NW	8.4	3.8	...	...	10n	...	NW	0.74	18.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	James Gall.
Medellin, Colombia, S. A.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Thomas Herran.
Navassa, W. I.	29.96	761.1	30.04	763.0	78	25.6	...	NE	18	8.0	...	...	...	...	...	0.08	2.0	Cloudy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	80	26.7	82	NE	...	...	2	3c	5k	E	...	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Robert Mason.
St. Thomas, W. I.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	G. O. Gellich.
York Factory, B. A.	30.25	768.3	30.31	769.9	—29.0	—33.9	...	N	17	7.6	...	0	0	...	...	0	0	Clear	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 536.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,022 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.32 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.03	762.8	56	13.3	55	12.8	93	SSW	20	8.9	.....	.....	10	.....	SW	0	0	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	56	13.3	87	NE	2	0.9	.....	.....	0	.....	.....	0.11	2.8	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.34	745.2	72	22.2	47	8.3	92	S	3	1.3	.....	.....	8	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.09‡	764.3‡	.....	.....	38	3.3	76	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. N. 47° 40′, W. 80° 01′.....	29.97	761.2	80	26.7	79	26.1	95	N	.....	.....	3	.....	5	.....	N;E	.....	.....	Mod'ate	N	Fair.....	
Alaska, N. 22° 57′, W. 108° 09′.....	30.05	763.3	69	20.6	67	19.4	95	SW	.....	.....	4	.....	0	.....	.....	0	0	Long	W	Blue sky.....	
Alliance, Villafranca, France.....	29.51‡	749.5‡	.....	.....	62	16.7	61	ESE	.....	.....	1	.....	8	.....	Calm	.....	.....	Long	S	Pleasant.....	
Ashuelot, Hong-Kong, China.	30.21‡	767.3‡	.....	.....	58	14.4	70	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Canonicus, New Orleans, La.....	30.05	763.3	41	5.0	52	11.1	93	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	29.40	746.7	43	6.1	43	6.1	92	SW	25	11.2	.....	.....	10	.....	SE	0.5	13.	.....	.....	Rainy	
Constitution, N. 46° 38′, W. 16° 51′.....	29.75‡	755.6‡	.....	.....	52	11.1	100	ESE	.....	.....	8	.....	10	.....	Calm	.....	.....	Rough	SW	Drizzling.....	
Despatch, Constantinople, Turkey	29.74‡	755.4‡	.....	.....	67	19.4	49	S	.....	.....	3	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Essex, S. 42° 41′, W. 57° 01′.....	29.92	760.0	63	17.2	59	15.0	94	W	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va.....	29.75	755.6	75	23.9	49	9.4	64	W	13	5.8	.....	.....	10	.....	SW	1.0	25.	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.63‡	752.6‡	.....	.....	61	16.1	83	W	.....	.....	0–1	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Hartford, Montevideo, Uruguay....	29.86	758.4	71	21.7	69	20.6	90	SSE	.....	.....	6	.....	10	.....	W	0	0	Mod'ate	SSE	Cloudy.....	
Lackawana, Panama.....*	29.72‡	754.9‡	.....	.....	76	24.4	91	NW	.....	.....	2	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Michigan, Erie, Pa.....†	29.69	754.1	.....	.....	22	— 5.6	86	W	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China.....*	30.42‡	772 6‡	.....	.....	42	5.6	67	SE	.....	.....	0–1	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Monongehela, Yokohama, Japan ....*	30.01‡	762.2‡	.....	.....	34	1.1	??	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Blue sky.....	
New Hampshire, Port Royal, S. C.....	29.92	760.0	53	11.7	52	11.1	79	WNW	16	7.2	.....	.....	2	.....	SW	0.52	13.2	.....	.....	Clear.....	
Onward, Callao, Peru.....†	30.04	763.0	.....	.....	69	20.6	95	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.29	769.4	38	3.3	31	— 0.6	68	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Passaic, Washington, D. C.....	.....	.....	.....	.....	38	3.3	81	W	.....	.....	4	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Pensacola, S. 20° 10′, W. 100° 00′.....	30.02‡	762.5‡	.....	.....	72	22.2	76	E	10	4.5	.....	.....	2	.....	E	0	0	Long	S	Clear.	
Powhatan, St. Thomas, W. I	30.19	766.8	79	26.1	79	26.1	66	E	.....	.....	2	.....	2	....	.....	.....	.....	.....	.....	Clear	
Quinnebaug, Villafranca, France.....	29.60‡	749.3‡	.....	.....	57	13.9	69	ENE	.....	.....	3	.....	8	.. ..	ENE	.....	.....	Light ground	S	Fair...	
Ranger. N. 33° 40′, E. 136° 21′...*	30.15‡	765.8‡	.....	.....	53	11.7	61	NW	.....	.....	3	.....	2	.....	NW	.....	.....	Smooth	.....	Clear.....	
Richmond, Gibraltar.....	30.28‡	769.1‡	.....	.....	61	16.1	66	NNW	.....	.....	3	.....	8	.....	NW	.....	.....	Smooth	NW	Fair	
Rio Bravo, Brownsville, Texas.....	30.00	762.0	54	12.2	53	11.7	93	SE	.....	.....	1	.....	Fog	.....	Calm	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	29.56‡	750.8‡	.....	.....	42	5.6	58	NW	.....	.....	4	.....	8	.....	NW	0.05	1.3	.....	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.43	747.5	60	15.6	40	4.4	.....	WNW	20	8.9	.....	.....	5	.....	SSW	0.9	23.	.....	.....	Fair	
Supply, N. 22° 16′, W. 24° 21′.....	30.21‡	767.3‡	.....	....	75	23.9	81	E	.....	.....	6	.....	2	.....	ENE	.....	.....	Long	ENE	Clear.....	
Trenton Villafranca, France *...	29.47‡	748.5‡	..... .	.....	65	18.3	73	SE	.....	.....	4	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Tuscarora, Off Zacatula, Mexico.....	29.97‡	761.2‡	.....	....	71	21.7	85	N	.....	.....	0–1	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Wabash, Boston, Mass.....	29.30‡	744.2‡	.....	.....	47	8.3	85	S	24	10.7	... ..	.....	10	.....	.....	.....	.....	.....	.....	Light rain...	
Wyoming, Smyrna, Turkey.....	30.00	762.0	67	19.4	64	17.8	83	SSE	.....	.....	3–5	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 21° 32′, W. 105° 16′...†		29.96‡	761.0‡	65	18.3	100	Calm			0		0			0	Very small	W	Foggy	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada N. 38° 10′, W. 119° 50′..†*		30 37‡	771.4‡	58	14.4	100	WNW			3		Fog			0			Foggy	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 4° 24′, W. 167° 24′		29.92‡	760.0‡				ENE			6				ENE		Mod'ate	E	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is no known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the cooperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 32° 23′, E. 148° 44′...*		30.00‡	762.0‡	60	15.6	76	NNE			5		k		SSW		Mod'ate	NW	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 48° 07′, W. 26° 18′		29.17	740.9	50.0	10.0		SW			6		8		S	Blank	9	S;SW	Squally	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 47° 52', W. 38° 36'.....*	.....	29.27‡	743.4‡	45	7.2	??	N NW	.....	.....	8	.....	9	.....	NNW	Blank	Heavy	NW	Cloudy.....	Captain Sargent.
S. S. Ohio, N. 44° 08', W. 39° 24'.....†	.....	29.76‡	755.9‡	45	7.2	90	WNW	.....	.....	7	.....	8	.....	NW	Blank	Large	NW	Stormy.....	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.
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NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
S. S. Hibernian, N. 49° 00', W. 38° 19'.....	.....	29.37‡	746.0‡	46	7.8	.....	NW	.....	.....	9	.....	6	.....	NW	.....	Very high.	NW	Squally.....	Capt. W. Richardson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

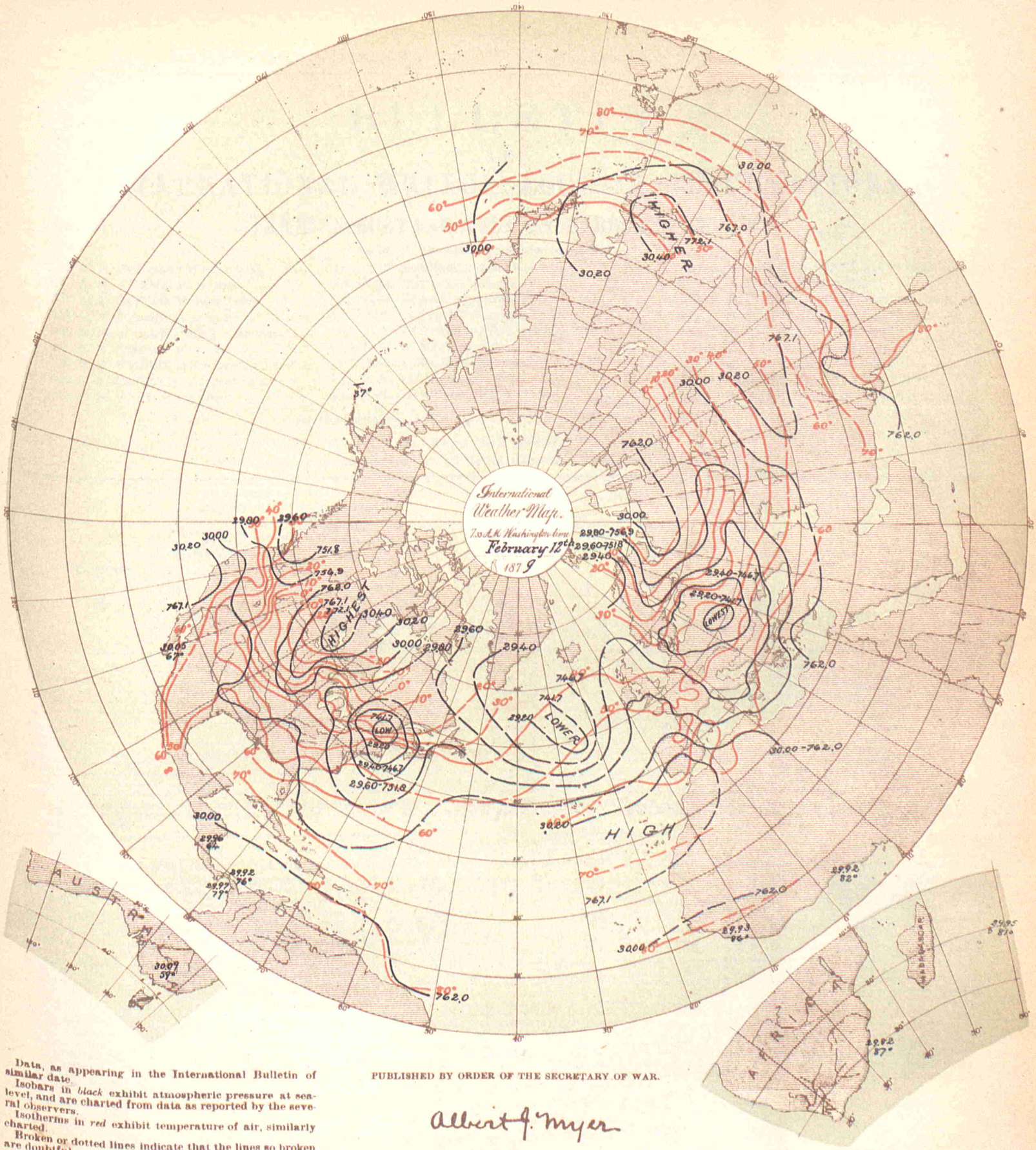
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HEALEY PRINTING CO., N.Y.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 13, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Morocco	.....	.....	30.26	769.1	61.2	16.2	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.10	764.4	61.9	16.6	85	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.98	761.5	62.6	17.0	56	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.96	761.0	60.6	15.9	79	NW	.....	.....	5	.....	5	.....	.....	0.559	14.2	Cloudy	Foufrede.
Tunis	.....	.....	30.00	762.1	59.5	15.3	62	NW	.....	.....	8	.....	5	.....	.....	0.008	0.2	Cloudy	Jacques.
Sfax	.....	.....	30.08	764.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.04	762.9	63.5	17.5	24	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.05	763.2	63.1	11.7	40	W	.....	.....	5	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	30.14	765.5	55.2	12.9	95	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugnlaux.
Laghouat	.....	.....	30.08	764.1	58.6	14.8	46	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.06	763.4	68.5	20.3	32	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale of 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.20	741.8	29.75	755.6	49.1	9.5	73	SW	.....	.....	2	.....	4	.....	.....	0.020	0 5	.....	Prof. Ivan Stosir.
Cracow, I. R. Observatory	28.94	735.0	29.72	755.0	35.6	2.0	85	WSW	.....	.....	1	.....	10	.....	.....	0.146	3.7	.....	Dr. Wiernbiski
Eperies	28.77	730.8	29.67	753.7	35.6	2.0	93	Calm	.....	.....	0	.....	10	.....	.....	0.030	0.74	.....	Julius Mikolik.
Gratz	28.55	725.1	29.81	757.1	46.8	8.2	43	NW	.....	.....	5	.....	5	.....	.....	0.087	2.2	.....	Andreas Rospini.
Hermannstadt	28.19	716.0	29.62	752.4	46.8	8.2	71	WNW	.....	.....	1	.....	10	.....	.....	0.238	6.05	.....	Prof. A. Gottschling.
Kremsmünster	28.53	724.7	29.92	759.9	36.9	2.7	63	WNW	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.56	725.5	29.56	750.8	38.3	3.5	97	NW	.....	.....	2	.....	10	.....	.....	0.012	0.3	.....	Dr. T. Stanecki.
Pola	29.82	757.4	29.93	760.3	52.7	11.5	85	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.20	741.7	29.67	753.6	46.8	8.2	81	S	.....	.....	3	.....	9	.....	.....	0.016	0.4	.....	Julius Csics, S. J.
Szegedin	29.40	746.8	29.69	754.0	43.5	6.4	65	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.67	753.6	29.77	756.2	52.3	11.3	93	Calm	.....	.....	0	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.11	739.4	29.85	758.1	39.6	4.2	55	WNW	.....	.....	5	.....	8	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.69	754.1	29.79	756.7	37.8	3.2	.....	SSE	21	9.4	.....	.....	9	.....	.....	0.010	0.25	Overcast.....	W. Boswell.
Ardrossan	29.58	751.3	29.59	751.6	38	3.3	.....	NE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	William McNeil.
Armagh, Observatory	.....	.....	29.44	747.8	39.2	4.0	.....	E	18	8.0	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.56	750.8	39.3	4.1	.....	ESE	19	8.5	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Bolton, (Sharples)	.....	.....	29.64	752.8	38.4	3.6	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	29.27	743.4	29.66	753.4	40.3	4.6	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.03	760.2	29.96	761.0	76	24.4	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	Gloomy.....	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.74	755.4	42.0	5.6	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd.
Cardington	.....	.....	29.68	753.9	44.4	6.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.66	753.4	29.79	756.7	39.8	4.3	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Corpl. Daly, R. E.
Dartmoor	28.02	711.7	29.49	749.0	42.0	5.6	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Rain & fog..	Alexander Watt.
Donaghadee	29.47	748.5	29.51	749.5	40	4.4	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	J. Mac Gowan.
Dover	29.76	755.9	29.78	756.4	41	5.0	.....	SSW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	J. Costello.
Falmouth, Observatory	29.26	743 2	29.48	748.8	51.7	10.9	.....	SSW	.....	.....	4	.....	6	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.51	698.7	29.82	757.4	86.0	30 0	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. S. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.70	754.4	29.92	760.0	87	30.6	.....	S	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.17	740.9	50	10.0	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.06	763.5	30.11	764.8	61.3	16.3	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt Wm. Allen, A. H. C.
Glasgow, Observatory	29.43	747.5	29.63	752.6	36.9	2.7	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	D. G. Maclean.
Great Yarmouth	29.82	757.4	29.82	757.4	39	3.9	.....	S	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.58	751.3	29.76	755.9	40.9	4.9	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G. B. Airy
Guernsey	29.40	746.7	29.62	752.3	45.5	7.5	.....	SSE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F. R. S.
Helston	29.48	748.8	29.60	751.8	52	11.1	.....	SE	.....	.....	6	.....	6k	.....	.....	0.30	7.6	Fair	M. P. Moyle.
Holyhead	29.38	746.2	29.43	747.5	42	5.6	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	John Tilston.
Jersey	29.36	745.7	29.66	753.4	45.0	7.2	.....	SSE	.....	.....	6	.....	10	.....	.....	.....	.....	Misty.....	J. Fisher.
Kew, Observatory	29.71	754.6	29.75	755.6	42.2	5.7	.....	ESE	16	7.2	.....	.....	10	.....	.....	.....	.....	Misty.....	The Meteorological Of.
Leicester, Museum	29.42	747.2	29.68	753.9	41.0	5.0	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.70	754.4	29.78	756.4	62	16.7	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	Sergt. H. J. Beckart, A. H. C.
Naira	29.61	752.1	29.71	754.6	35	1.7	.....	ENE	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.08	764.0	72.0	22.2	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.49	749.0	29.69	754.1	41.2	5.1	.....	SE	.....	.....	2	.....	10d	.....	S	0.110	2.79	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.11	739.4	29.64	752.8	39.3	4.1	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.76	755.9	42	5.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	29.44	747.8	29.52	749.8	48.3	9.1	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.23	742.4	29.27	743.4	49	9.4	.....	S	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded...	W. Kennedy.
Saint Ann's Head	29.25	742.9	29.41	747.0	45	7.2	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.80	756.9	35.1	1.7	.....	SSE	11	4.9	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.53	750.0	63.8	17.2	.....	S	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	W. H. Lyne.
Sheffield	29.42	747.2	29.70	754.4	41.0	5.0	.....	SSE	.....	.....	1	.....	10	.....	.....	0.28	7.1	Overcast.....	W. F. Cooper.
Silloth Rectory	29.57	751.1	29.60	751.8	40.1	4.5	92	SE	.....	.....	3	.....	7	.....	.....	0.155	3.94	D. clouds.....	Francis Redford, A. M.
Stonyhurst Observatory	29.23	742.4	29.63	752.6	39.2	4.0	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stratfield Turgiss	29.53	750.0	29.75	755.6	41.5	5.3	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. H. Griffith, F. R. S.
Thurso	29.70	754.4	29.77	756.1	36	2.2	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.45	748.0	52	11.1	.....	S	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	29.16	740.7	29.18	741.2	49.7	9.8	.....	SE	39	17.4	.....	.....	10	.....	.....	.....	.....	Raining	The Meteorological Of.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	29.73	755.1	39.0	3.9	.....	E	.....	.....	2	.....	10ks	.....	.....	0.06	1 5	Overcast.....	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.95	760.7	82.9	28.3	68	ESE	23.0	10.3	.....	2	3	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.94	760.5	30.03	762.7	62.8	17.1	68	S	11	4.9	.....	.....	3	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides	.....	.....	29.60	751.8	41	5.0	.....	SE	.....	.....	6	0	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.83	757.7	37	2.8	.....	SW	.....	.....	6	10	10	SW	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
U. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	63.0	17.2	78	E	.....	.....	1	1c	.....	.....	.....	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.69	754.2	29.74	755.4	30.9	— 0.6	88	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Snowing.
Fanöe	29.82	757.4	29.84	757.9	31.8	— 0.1	79	NNW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.20	741.8	29.25	742.9	40.5	4.7	65	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.84	757.9	29.87	758.8	33.8	1.0	68	NE	.....	.....	2	.....	7	.....	.....	.....	.....	.....	.....
Vestervig	29.67	753.6	29.84	757.9	26.6	— 3.0	91	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.8	29.87	758.8	42.4	5.8	91	S	.....	.....	1	.....	10	.....	.....	0.008	0.2	Raining	Collignon, Director.
Amiens, Normal School	29.80	756.9	29.91	759.8	43.5	6.4	82	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.89	759.3	29.97	761.3	54.0	12.2	52	N	.....	.....	3	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.42	747.3	30.00	762.0	42.3	5.7	65	SW	.....	.....	1	.....	8	.....	SW	0.039	1.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.64	752.8	29.93	760.2	43.2	6.2	68	S	.....	.....	1	.....	10	.....	SSW	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.10	739.1	30.02	762.4	43.2	6.2	82	S	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.14	740.2	30.05	763.3	42.3	5.7	78	N	.....	.....	2	.....	kn	N	N	0.08	2.	.....	M. Marlot, Director.
Bourges, Normal School	29.39	746.6	29.95	760.8	45.9	7.7	89	S	.....	.....	1	.....	8	SE	S	0.047	1.2	Very cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.34	745.1	29 58	751.8	54.0	12.2	86	SW	.....	.....	4	.....	10	.....	SW	0.335	8.50	Foggy	M.de Rermaree, Director
Carcassonne, Normal School	29.66	753.4	30.08	764.1	55.4	13	68	W	.....	.....	1	.....	5	W	W	0.08	2.	Cloudy	September, Director.
Caen, Normal School	29.69	754.2	29.77	756.1	44.2	6.8	83	SE	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.18	741.1	29.76	755.9	39.6	4.2	97	E	.....	.....	2	.....	10	.....	NW	0.079	2.0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.68	753.8	30.00	762.1	42.8	6.0	85	SW	.....	.....	3	.....	8	SW	SW	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.57	725.7	29.94	760.5	48.9	9.4	64	E	.....	.....	1	.....	10	.....	W	0.047	1.2	Covered	Alluard, Director.
Commercy, Normal School	29.11	739.3	30.01	762.2	42.8	6	79	SSW	.....	.....	1	.....	8ks	.....	SSW	0.059	1.5	Cloudy	Dr. Conlet, Director.
Commune de Gréasque*	28.77	730.8	29.91	759.8	50.2	10.1	46	NW	.....	.....	4	.....	1	.....	NW	0	0	Slightly cl'dy	M. Kina, Director.
Grenoble, Normal School	29.24	742.6	30.02	762.4	46.8	8.2	59	WNW	.....	.....	3	.....	5kn	W	NW	0	0	Cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.05	753.2	29.87	758.8	49.3	9.6	95	W	.....	.....	1	.....	10	.....	SW	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.59	751.6	29.91	759.7	44.1	6.7	94	S	.....	.....	3	.....	8	.....	S	0.069	1.75	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.06	738.2	29.99	761.7	43.3	6.3	67	SSE	.....	.....	1	.....	10	.....	.....	0.205	5.20	Covered	Baudry, Director.
Lorient, Naval Observatory	29.61	752.0	29.71	754.5	50.0	10.0	97	S	.....	.....	7	.....	.....	.....	S	0.150	3 8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.93	734.8	30.00	762.0	42.8	6.0	73	SSE	.....	.....	1	.....	km	.....	NW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.79	756.6	29.99	761.8	56.8	13.8	77	SW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	28.93	734.7	30.01	762.2	48.2	9.0	63	N	.....	.....	1	.....	n	S	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24 98	634.5	.....	.....	30.2	—1.0	100	W	.....	.....	3	.....	.....	.....	.....	0.185	4.7	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.88	759.0	29.91	759.8	50.9	10.5	93	S	.....	.....	1	.....	10	S	S	0.20	5.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.76	755.8	29.84	758.0	42.8	6.0	85	S	.....	.....	1	.....	10	.....	S	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.64	752.9	29 67	753.7	48.6	9.2	92	SSE	.....	.....	6	.....	10	SSE	SSE	0.067	1.70	Raining	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.76	756.0	29.93	760.2	42.8	6.0	66	S	.....	.....	2	.....	10	.....	S	0.020	0.5	Covered	E. Renou, Director.
Tarbes, Normal School	28.75	730.3	29.82	757.5	55.4	13	55	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Versailles Observatory	29.36	745.6	30.08	764.0	44.4	6.9	97	S	.....	.....	2	.....	10	.....	SW	0.039	1.0	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.41	747.0	29.90	759.5	42.8	6.0	.....	S	.....	.....	2	.....	10	.....	.....	0.026	0.66	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	30.00	762.0	30.03	762.7	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.63	16.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	30.03	762.7	45.0	7.2	76	E	.....	.....	1	.....	10	.....	.....	0.087	2.2	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.74	628.5	30.06	763.5	42.4	5.8	59	WSW	.....	.....	3	.....	2	.....	.....	0.213	5.4	.....	M. Cave.
Nice	.....	.....	29.82	757.4	60.8	16.0	65	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.64	752.9	.....	.....	41.7	5.4	75	S	.....	.....	4	.....	10	.....	S	0	0	.....	Marié Davy, Director.
Perpignan	29.91	759.6	30.01	762.3	55.6	13.1	59	NE	5.6	2.5	.....	.....	3	.....	.....	0.035	0.9	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.41	569.1	.....	.....	30.9	— 0.6	.....	WNW	.....	.....	2	.....	10	.....	.....	0.441	11.2	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	29.28	743.8	30.00	762.1	51.8	11.0	77	E	.....	.....	1	.....	5	.....	.....	0.049	1.1	.....	M. Mercadier Juller.
Tours	29.70	754.4	29.90	759.4	46.0	7.8	81	SE	.....	.....	3	.....	10	.....	WSW	0.039	1.0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.31	769.8	30.34	770.5	42.3	5.7	83	ESE	5.6	2.5	.....	8ok	.....	.....	.....	0	0	Very cloudy	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:03 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1[illegible]	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.1	29.90	759.5	38.5	3 6	75	W	.....	.....	6	.....	7	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.58	751.3	29.76	755.8	34.9	1.6	73	W	.....	.....	2	.....	10	.....	.....	0.043	1.1	.....	Prof. Arndt.
Breslau	29.19	741.6	29.72	754.8	33.1	0 6	68	W	.....	.....	6	.....	10	.....	.....	0.029	0.72	Snowing	Royal University Obs'y
Carlsruhe	29.55	750.6	29.99	761.7	43 3	6.3	67	SW	.....	.....	2	.....	10	NW	.....	0	0	.....	Albert Senx.
Cassel	29.28	743.8	29.89	759.2	39.2	4.6	66	NW	.....	.....	5	.....	4	NW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	44.2	6.8	74	W	.....	.....	2	.....	8	.....	.....	0.04	1.	.....	Directer Lose.
Emden	.....	.....	.....	.....	37.9	3.3	72	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.60	751.9	29.97	761.3	43.9	6.6	.....	WSW	.....	.....	2	.....	9	.....	.....	0.024	0.6	.....	Physical Society.
Friedrichshafen	28.54	724.8	29.93	760.1	41 4	5.2	80	S	.....	.....	2	.....	10	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.76	755.9	29.84	757.8	34.(	1.1	79	NNW	.....	.....	4	.....	9cs	.....	.....	0	0	Fair	Captain F. Hegemann.
Kiel	29.81	757.2	29.88	757 6	33.4	0.6	81	NNW	.....	.....	3	.....	10	.....	.....	0.037	0.91	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.49	749.0	29.58	751.2	32.2	0.1	87	NW	.....	.....	3	.....	8	.....	.....	0.008	0.2	.....	Prof. E. Luther.
Köslin	.....	.....	29.60	751.8	32.9	0.5	.....	N	.....	.....	2	.....	4	.....	.....	0.709	18.0	.....	H. Müller.
Leipsic, Observatory	29.42	747.3	29.85	758.3	37.9	3.3	61	WNW	.....	.....	4	.....	9	W	.....	0.193	4.9	.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.50	749.4	29.55	750.6	31.5	— 0.3	85	N	.....	.....	2	.....	10s	.....	.....	.....	.....	Squally	Skalweit.
Neufahrwasser	29.62	752.3	29.63	752.7	33.3	0.7	90	NNW	.....	.....	2	.....	10	.....	.....	0.020	0.5	Snowing	A. Lothes.
Posen	29.39	746.6	29.69	754.2	33.1	0 6	92	WNW	.....	.....	2	.....	10	.....	.....	0.059	1.5	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.46	748.3	30.02	762.6	44.4	6.9	66	Calm	.....	.....	0	.....	10	.....	.....	0.063	1.61	.....	Imp. University Observatory.
Stuttgart	29.01	736.9	29.94	760.4	41.7	5.4	57	N	.....	.....	1	.....	9	W	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.41	721.7	29.97	761.1	36.9	2.7	82	NW	9	4	.....	.....	10	.....	WNW	0.047	1.2	.....	Dr. Van Bebber.
Wustrow, Naval School	29.71	754.7	29.74	755.3	32 9	0.6	96	N	.....	.....	3	.....	10	.....	.....	0.110	2.8	Snowing	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.15	740.3	29.54	760.2	761.7	16.5	.....	S	.....	.....	5.0	.....	.....	.....	.....	.....	.....	⅛ Clear	Dr. J. F. J. Schmidt.
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	30.06	763.6	30.12	764 9	74.4	23.6	32	WSW	10	4.5	.....	.....	7	.....	.....	0	0	D. clouds	
Deesa	29.47	748.4	29.94	760.5	81.3	27.4	14	NW	.....	.....	.....	.....	4	SW	.....	0	0	D. clouds	
Bombay	29.92	759.8	29.95	760.8	77.4	25.2	68	NW	9	4.0	.....	.....	0	.....	.....	0	0	Blue sky	
Poonah	27.94	709.7	29.94	760.4	82.5	28.1	.....	NE	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Lahore	29.20	741.7	29.96	761.1	67.7	19.8	30	Calm	1.5	0.7	.....	.....	6	.....	.....	0	0	Blue sky	
Belgaum	27.39	695.6	29.90	759.5	81.9	27.7	43	W	11	4.9	.....	.....	1	.....	.....	0	0	D. clouds	
Roorkee	29.04	737.6	29.96	761.0	65.2	18.4	33	NW	2	0.9	.....	.....	10	.....	.....	0	0	Gloomy	
Agra	29.41	747.0	29.99	761.7	73.7	23.2	22	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.88	733.5	29.92	759.8	84.9	29.4	36	Calm	2.3	1.0	.....	.....	.....	.....	.....	0	0	Blue sky	
Lucknow	29.62	752.4	30.00	762.1	70.5	21.4	44	NW	1.3	0.6	.....	.....	10	.....	.....	0	0	Overcast	
Allahabad	29.69	754.2	30.01	762.3	70.1	21.2	28	Calm	1.9	0.8	.....	.....	3	.....	.....	0	0	D. clouds	
Patna	29.82	757.5	30.01	762.3	68.9	20.5	45	Calm	1.0	0.4	.....	.....	5	E	E	0	0	D. clouds	
Hazaribagh	27.96	710.1	30.01	762.3	69.6	20.9	20	WNW	6.6	2.9	.....	.....	4	.....	.....	0	0	.....	
Cuttack	29.91	759.7	29.99	761.8	80.8	27.1	92	E	3.2	1.4	.....	.....	0	.....	.....	0	0	Blue sky	
Calcutta (Alipore)	29.99	761.8	30.01	762.3	70.8	21.6	61	Calm	.....	.....	.....	.....	0	.....	.....	0	0	Blue sky	
Goalpara	29.62	752.3	30.02	762.5	68.6	20.3	34	W	2.2	1.0	.....	.....	0	.....	.....	0	0	Blue sky	
Chittagong	29.87	758.8	29.97	761.2	73.8	23.2	88	SW	5.5	2.5	.....	.....	1	.....	.....	0	0	Misty	
Sibsagar	29.70	754.4	30.05	763.3	64.9	18.3	78	Calm	3.9	1.7	.....	.....	8	SW	SW	0.18	4.1	D. clouds	
Jubbulpore	28.56	725.5	29.93	760.3	79.5	26.4	24	Calm	2.1	0.9	.....	.....	4	.....	.....	0	0	D. clouds	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,962.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.35	745.5	29.76	756.0	54.3	12.4	59	W	0.7	0.3			0			0	0		Prof. Giovanni Clodig.
Padua	29.66	753.0	29.76	755.8	53.4	11.9	73	SSE	2.5	1.1			0			0	0		Prof. Dott. Lorenzoni
Milan	29.24	742.8	29.77	756.2	57.4	14.1	53	WNW			2		0			0	0		Prof. Schiaparelli.
Moncalieri	28.89	733.7	29.80	756.9	53.6	12.1	38	E	2.5	1.1			0			0	0		Prof. P. F. Denza.
Mondovi	27.86	707.6	29.77	756.2	56.3	13.5	80	NNE			2		0			0	0		Prof. D. C. Bruno.
Genoa	29.01	752.2	29.80	757.0	57.7	14.3	68	SW	1.3	0.6			0			0	0		Prof. G. M. Garibaldi.
Florence	29.52	749.9	29.78	756.4	50.4	10.2	87	E			2		5			0	0		Cav. F Meucci
Leghorn	29.70	754.3	29.78	756.5	57.4	14.1	75	SW	1.3	0.6			3			0	0		Prof. Monte.
Pesaro	29.72	755 0	29.77	756.2	52.5	11.4	72	W	11.2	5.0			0			0	0		Prof. Luigi Guidi.
Rome	29.61	752.1	29.78	756.5	59.7	15.4	59	W	1.8	0.8			0			0	0		Prof. P. S. Ferrari.
Lecce	29.37	745.9	29.62	752.4	54.0	12.2	74	NE	9.8	4.4			8	N		0.976	24.8		Prof. C. De Giorgi.
Cagliari	29.67	753.6	29.86	758.5	58.3	14.6	58	NW			6		1	W		0	0		Prof. A. Pacinotti.
Cosenza	28.81	731.8	29.70	754.3	57.2	14.0	76	NW	1.3	0.6			6			0.169	4.3		Prof. D. Conti.
Palermo	29.57	751.0	29.82	757.4	57.6	14.2	65	WNW	9.8	4.4			9	WNW		0.197	5.0		Prof. G. Cacciatore.
Syracuse	29.65	753.2	29.72	755.0	60.8	16.0	60	WSW	2.5	1.1			7	NW		0.071	1.8		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.22	742.3	29.78	756.4	59.0	15.0	60	NNW	1.3	0.6			1			0.035	0.9		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.29	769.3	30.31	769.9	39.3	4.1	72	N	5.1	2.3			0			0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	30.12	765 0	30.33	770.4	38.6	3.7	76	NE	0.4	0.2			0			0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.12	765.0	37.0	2.8	72	W	6.8	3.0		0	0			0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima not any distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca											1	0	0			0	0	Clear	P. Ceballos.
Guadalajara	25.14	638.5	30.38	771.7	39.2	4.0	44	SW			1	0	0			0	0		Prof. L. Perez
Leon	24.60	622.3	30.19	766.9	48.9	9.4	62	S			1	0	0			0	0		Prof. M. Leal
Mexico, Central Obs'y	23.13	587.5	30.38	771.6	41.0	5.0	64	Calm	0	0		0	0			0	0	Fine	The Staff.
Pabellon, (Aguascallentes)					43.3	6.3	48	SW			1	0	0			0	0	Clear	M. V. de Leon, N. E.
Tlacotalpam	29.97	761.2	29.98	761.5	64.2	17.9	91	S			3	0	0			0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.26	616.2	30.28	768.9	45.0	7.2	53	NNE				0	0			0	0	Misty	G. Barroeta, M. D.
Vera-Cruz	30.02	762.6	30.06	763.3	62.6	17 0	79	NW	0	0			2s			0	0	Foggy	Prof. J. Rossell.
Zacatecas																			T. G. de la Cadena.
Puebla, (Catholic Institute)	23.43	595.2	30.19	766 7	36.5	2.5	64	NNW	17.9	8.0						0	0		Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.41	721.7	30.09	764.4	70.7	21.5	63	NE			2	0	0			0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.97	761.2	30.10	764.6	65	18.3		Calm			0					0	0	Misty	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.66	753.3	29.66	753.3	41.4	5.2		NW			2					0.059	1.5		
Groningen	29.86	758.5	29.92	759.9	38.3	3.5		NW			1					0	0		
Helder	29.91	759.6	29.91	759.6	37.2	2.9		SE			2								
Hellevoetsluis	29.90	759.4	29.90	759.4	41.2	5.1	94	S			2		5			0	0	Cloudy	H. v. d. Brink.
Utrecht	29.89	759.1	29.93	760.3	42.1	5.6	88	WSW			2								

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.77	756.2	29.83	757.6	34.9	1.6	53	NNW	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.57	751.1	29.61	752.1	30.6	— 0.8	90	S	27	12	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.65	753.0	29.80	756.9	25.7	— 3.5	80	Calm	0	0	.....	.....	1	.....	.....	0	0	Foggy	
Tromsö	29.37	745.9	29.41	747.0	28.4	— 2.0	68	SW	29	13	.....	.....	7	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.20	767.1	30.39	772.0	55.0	12.8	81	WNW	7.4	3.3	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.13	739.9	30.18	766.5	50.9	10.5	89	SSW	6.3	2.8	.....	10	SW	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.21	767.7	30.31	769.9	65.8	18 8	51	SW	3.8	1.7	.....	1	.....	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.79	756.7	30.15	765.9	56.1	13.4	74	SW	19.9	8.9	.....	10	.....	.....	.....	0.008	0.2	.....	The Staff.
Ponta Delgada, (Azores)	30.36	771.1	30.43	772.9	58.6	14.8	53	N	6.9	3.1	.....	8	.....	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29 91	759.8	83.3	28.5	.....	W	.....	.....	2	2	.....	W	2	W	D. clouds	.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa. N. 11° 50′, W. 16° 25′	.....	.....	29.93	760.2	78.4	25.8	.....	NE	.....	.....	3	.....	2	.....	.....	1	.....	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.80	756.9	85.1	29.5	.....	WNW	.....	.....	2	.....	4	.....	.....	1	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.24	768.0	60 6	15.9	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	.....	J. M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.15	740.4	29.59	751.5	34.0	1.1	83	W	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.92	734.5	29.34	745 3	35.8	2.1	98	N	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	29.31	744.5	29.57	751.0	19.0	— 7.2	84	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Welhrauch.
St. Petersburg	29.67	753.5	29.68	753.9	13.5	—10.3	90	ESE	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.79	731.2	29.43	747.5	37.2	2.9	88	WSW	9	4	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.68	751.2	29.65	753.0	45.9	7.7	85	NNE	4	2	.....	.....	8c;n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.72	754.9	29.74	755.4	52.7	11.5	89	SSW	7	3	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.14	740.2	29.74	755.5	6.8	—14.0	79	NE	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.32	744.8	29.53	750.0	44.8	7.1	83	SSW	4	2	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.25	768.3	30.27	768.8	—13.4	—25.2	76	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Capt Sselliwerstow.
Tiflis	28.60	726.4	30.01	762.3	57.2	14.0	48	Calm	0	0	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.98	760.3	29.85	758.2	39.9	4.4	87	S	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.23	742.5	29.74	755.4	10.8	—11.8	78	N	16	7	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.60	751.8	29.90	759.5	— 0.6	—18.1	74	NNE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.02	737.2	30.11	764.7	— 8.1	—22.3	77	ENE	7	3	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nukuss	29.86	758.4	30.10	764.4	47.7	8.7	33	WSW	0	0	.....	.....	4ks	.....	.....	.....	.....	.....	
Tashkend	28.50	724.0	30.28	769.2	45.3	7.4	67	NNE	18	8	.....	.....	4	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.34	745.1	29.88	758.9	9.5	—12.5	87	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.40	746.7	29.60	751.9	— 6.5	—21.4	78	NW	20	9	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.04	762.9	30.18	766.5	36.1	2.3	50	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.95	760.8	57.7	14.3	56	WSW	3.4	1.50	.....	.....	1	.....	.....	0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.87	758.8	29.93	760.2	58.8	14.9	61	SE	4.3	1.90	.....	.....	10	.....	.....	0.055	1.4	Covered	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.05	687.0	.....	.....	45.5	7.5	87	S	8.2	3.68	.....	.....	9	.....	.....	0	0	½ Covered...	Domingo Martin y Perer.
Madrid, Royal Observatory	27.85	707.4	.....	.....	47.7	8.7	84	SW	7.5	3.33	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.94	760.4	30.09	764.2	69.4	20.8	49	SE	1.7	0.78	.....	0	0	.....	.....	0	0	Clear..	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.96	735.2	29.85	758.2	51.6	10.9	86	SW	24.8	11.1	.....	.....	10	.....	.....	0.787	20.0	Raining	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I	30.05	763.3	30.12	765.0	62.2	16.8	88	Calm	0	0	.....	1c	2k	ENE	E	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.95	760.8	30.01	762.2	79.7	26.5	66	ENE	1.6	0.7	.....	.....	.....	.....	.....	0	0	Clear.	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.11	764.8	30.21	767.2	58.3	14.6	76	WNW	6.8	3.0	.....	0	3	.....	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I	29.98	761.6	30.08	763.9	77.0	25.0	94	E	10.1	4.50	.....	4kn	3kn	E	E	0.039	1.00	Cloudy	Leonardo de Tejeda, Ch'f Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.78	756.4	29.82	757.4	7.5	—13.6	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	
Umea	29.71	754.7	29.76	756.0	10.8	—11.8	100	N	.....	.....	2	.....	10	.....	.....	0.079	2.0	Snowing.....	
Hernosand	29.70	754.3	29.75	755.6	12.6	—10.8	86	N	.....	.....	4	.....	9	.....	.....	0.043	1.1	Snowing.....	
Stockholm	29.54	750.2	29.71	754.7	17.6	— 8.0	91	NNW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.68	751.4	29.64	752.9	25.9	— 3.4	91	NE	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.63	752.7	29.71	754.6	16.7	— 8.5	85	NNW	10.7	4.8	.....	.....	10	.....	.....	0.000	0.01	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.53	724.7	29.09	761.7	44.6	7.0	63	SW	.....	.....	3	.....	6	.....	.....	0.020	0.5	Cloudy.....	The Observatory.
Zurich	28.35	720.0	30.04	762.9	30.0	3.9	78	W	.....	.....	2	.....	10	.....	.....	0	0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.7 mm.; Thermometer, +3.4 cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.60	751.7	66.0	18.9	40	SW	12	5.5	.....	.....	6	.....	SW	0.134	3.4	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.60	751.9	54.0	12.2	.....	NW	.....	.....	3	.....	10	.....	.....	0.79	20.	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.90	759.4	30.02	762.5	68.7	20.4	62	NE	.....	.....	1	.....	3c	.....	.....	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.23	742.4	29.30	744.2	11.6	—11.3	71	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.48	748.8	29.82	757.4	— 2	—18.0	.....	Calm	0	0	.....	0	2s	.....	NW	0.35	8.9	Clear.....	W. R. Bigg.
*Chatham, N B	29.26	743.2	29.33	745.0	10	—12.2	90	SW	14	6.3	.....	8k	2ks	W	W	1.20	30.5	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.27	743.4	29.31	744.5	31	— 0.6	86	SW	24	10.7	.....	.....	10s	.....	Calm	0.060	1.52	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.52	749.8	29.74	755.4	— 2.0	—18.9	100	W	.....	.....	4	0	0	.....	.....	0.20	5.1	Clear.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.98	761.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	29.22	742.2	29.24	742.7	9	—12.8	83	W	35	15.6	.....	.....	10n	.....	.....	0.50	12.7	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.43	747.5	29.50	749.3	9.1	—12.7	61	W	18	8.0	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.38	746.2	30.38	771.6	—32	—35.6	100	W	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	28.70	729 0	29.90	759.4	6	—13.3	.....	NW	.....	.....	2	.....	10n	.....	.....	0.40	10.2	Overcast.....	James Grant.
*Halifax, N. S	29.32	744.7	29.46	748.3	31	— 0.6	95	SW	22	9.8	.....	.....	10ks	.....	W	0.501	12.73	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.53	750.0	29.93	760.2	13.7	—10.2	91	SW	.....	.....	1	10cs	0	SW	.....	0	0	Overcast.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.44	747.8	29.82	757.4	1	—17.2	58	NE	1	0.4	.....	8ck	0	NW	.....	0.13	3.3	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.36	745.7	29.41	747.0	34.2	1.2	77	SW	12	5.4	.....	6k	0	SW	.....	0.700	17.78	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.47	748.5	29.69	754.1	0	—17.8	79	W	23	10.3	.....	0	2s	.....	.....	0.07	1.8	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.91	759.7	— 7	—21.7	43	N	8	3.6	.....	2c	2ks	W	W	0.05	1.3	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.03	737.3	29.86	758.4	— 0.6	—18.1	68	N	.....	.....	.....	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	29.32	744.7	29.37	746.0	31.5	— 0.3	.....	W	3	1.3	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.92	760.0	10	—12.2	88	W	18	8.0	.....	.....	10n	.....	W	0.05	1.3	Cloudy..	M. Payne.
*Quebec, Quebec	29.14	740.1	29.49	749.0	2	—16.7	72	NW	.....	.....	6	0	0	.....	.....	0.50	12.7	Clear.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	30.01	762.2	30.06	763.5	25	— 3.9	74	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	29.35	745.5	29.52	749.8	10	— 7.2	69	W	19	8.5	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.89	759.2	4	—15.6	80	NE	14	6.3	.....	.....	10s	.....	.....	0.22	5.6	Light snow..	K. Stewart.
Stayner, Ontario	29.03	737 8	29.90	759.4	1	—17.2	91	Calm	0	0	.....	.....	10n	.....	Calm	0.15	3.8	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.48	723.4	29.87	758.7	9.8	—12.3	92	W	10.0	4.5	.....	.....	10s	.....	.....	0.45	11.4	Light snow..	C. J. MacGregor, M. A.
*Sydney, C. B	29.34	745.2	29.38	746.2	34	1.1	81	SW	20	8.9	.....	8ck	5ks	SW	SW	0.53	13.5	Fair?.....	T. C. Hill.
*Toronto, Ontario	29.45	748 0	29.87	758 7	7	—13.9	84	NW	8	3.6	.....	2ck	5ks	W	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.33	745.0	29.48	747.5	31	— 0.6	100	W	22	9.8	.....	.....	10n	.....	.....	0.42	10.7	Overcast.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	37.0	2.8	100	SW	.....	.....	.....	10c	10s	.....	.....	0.50	12.7	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	29.50	749.3	29.75	755.6	17	— 8.3	67	NW	10	4.5	.....	1c	0	W	.....	0.07	1.8	Clear	
Alpena, Michigan	29.26	743.2	29.97	761.2	4	—15.6	74	W	12	5.4	.....	.....	8s	.....	W	0.30	7.6	Cloudy	
Atlanta, Georgia	28.74	730.0	29.98	761.5	46	7.8	61	W	7	3.1	.....	10c	Sm'e	W	Calm	0	0	Cloudy	
Atlantic City, New Jersey	29.83	757.7	29.85	758.2	35	1.7	70	W	4	1.8	.....	5c	2s	W	W	0	0	Cloudy	
Augusta, Georgia	29.77	756 1	29.95	760.7	52	11.1	60	Calm	0	0	.....	5cs	Fog	N	Calm	0	0	Fair	
Baltimore, Maryland	29.85	758.2	29.90	759 4	34	1.1	61	NW	7	3.1	.....	5k	5s	NW	NW	0	0	Cloudy	
Barnegat, New Jersey	29.78	756.4	29.81	757.2	33	0.6	79	W	13	5.8	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Bismarck, Dakota	28.42	721.9	30.27	768.8	—19	—28.3	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.55	725.2	29.91	759.7	39	3.9	73	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.31	693.7	30.27	768.8	40	4.4	82	N	2	0.9	.....	0	5s	.....	SW	0.11	2.8	Fair	
Boston, Massachusetts	29.55	750.6	29.71	754.6	27	— 2.8	64	W	6	2.7	.....	0	1s	.....	W	0.13	3.3	Clear	
Brackettville, Texas	28.86	733.0	29.89	759.2	53	11.7	48	N	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Breckenridge, Minnesota	29.24	742.7	30.44	773.2	—26	—32.2	100	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.80	756.9	29.87	758.7	62	16.7	94	S	8	3.6	.....	8k	0	S	.....	0	0	Fair	
Buffalo, New York	29.09	738.9	29.84	757.9	14.5	— 9.7	91	W	8	3.6	.....	.....	10n	.....	Calm	0.19	4.9	Light snow	
Burkes, Arizona	.....	.....	.....	.....	49	9.4	Inap.	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.40	746 7	29.71	754.6	9	—12.8	78	N	4	1.8	.....	0	5s	.....	W	0.03	0.8	Fair	
Cairo, Illinois	29.86	758.4	30.28	769.1	20	— 6.7	70	NW	16	7.2	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.29	642.4	30.09	764.3	44	6.7	76	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	38	3.3	72	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.56	700.0	30.13	765.3	35	1.7	80	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.91	759.7	29.91	759.7	46	7.8	92	E	4	1 8	.....	10cs	0	W	.....	0	0	Cloudy	
Cape Henry, Virginia	29.83	757.7	29 85	758.2	42	5.6	66	Calm	0	0	.....	2cs	5s	Calm	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	29.90	759.4	29.91	759.7	49	9.4	93	NE	4	1.8	.....	5c	Fog	W	NE	0	0	Foggy	
Cape May, New Jersey	29.82	757.4	29.85	758.2	35	1.7	70	W	20	8.9	.....	2cs	0	NW	.....	0	0	Fair	
Castroville, Texas	29.23	742.4	29.95	760.7	46	7.8	69	SE	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	29.90	759.4	29.96	761.0	54	12.2	61	SW	6	2.7	.....	10cs	0	W	.....	0	0	Cloudy	
Cheyenne, Wyoming	23.92	607.6	29.86	758.4	23	— 5.0	86	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.37	746.0	30.13	765.3	10	—12.2	100	NW	4	1.8	.....	0	2s	.....	W	0.09	1.5	Clear	
Cincinnati, Ohio	29.43	747.5	30.12	765.0	21	— 6.1	71	NW	6	2.7	.....	.....	10n	.....	NW	0.06	1.5	Light snow	
Cleveland, Ohio	29.22	742.2	30.00	762.0	16	— 8.9	83	NW	14	6.3	.....	.....	10s	.....	NW	0.13	3.3	Cloudy	
Coleman City, Texas	28.33	719.6	30.11	764.8	26	— 3.3	75	N	16	7.2	.....	8cs	0	NW	.....	0	0	Fair	
Columbus, Ohio	29.15	740.4	30.04	763.0	21	— 6.1	71	W	11	4.9	.....	8k	0	W	.....	0.02	0.5	Fair	
Corpus, Texas	28.10	713.7	29.86	758.4	28	— 2.2	59	NE	12	5.4	.....	5c	0	NE	.....	0	0	Fair	
Corsicana, Texas	28.65	753.1	30.15	765.8	31	— 0.6	48	NW	16	7 2	.....	5cs	0	NW	.....	0	0	Fair	
Davenport, Iowa	29.56	750.8	30.28	769.1	3	—16.1	73	NW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Deadwood, Dakota	25.38	644.6	.....	.....	— 4	—20.0	65	Calm	0	0	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Decatur, Texas	28.99	736.3	30.15	765.8	24	— 4.4	83	N	6	2.7	.....	0	5s	.....	N	0	0	Fair	
Denison, Texas	29.35	745.5	30.20	767.1	24	— 4.4	74	N	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.69	627.1	29.91	759.7	31	— 0.6	79	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.44	747.8	30.45	773.4	— 4	—20.0	65	NW	6	2.7	.....	0	2s	.....	NW	0.03	0.8	Clear	
Detroit, Michigan	29.26	743.2	29.98	761.5	12	—11.1	80	W	3	1.3	.....	.....	10s	.....	Calm	0.24	6.1	Cloudy	
Dodge City, Kansas	27.62	701.5	30.15	765.8	10	—12.2	79	NE	12	5.4	.....	.....	10ks	.....	NW	0	0	Cloudy	
Dubuque, Iowa	29.51	749.5	30.31	769.9	— 4	—20.0	65	NW	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.53	750.0	30.33	770.4	—14	—25.6	72	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.16	740.7	29.90	759.4	48	8.9	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.48	748.8	29.55	750.6	16	— 8 9	66	W	14	6.3	.....	0	0	.....	.....	0.60	15.2	Clear	
Edinburg, Texas	.....	.....	.....	.....	58	14.4	94	S	.....	.....	6	2c	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.30	668.0	.....	.....	46	7.8	29	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.15	740.4	29.92	760.0	14	—10.0	82	W	13	5.8	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Escanaba, Michigan	29.36	745.7	30.09	764.3	— 1	—18.3	68	NW	12	5.4	.....	2k	0	NW	.....	0.01	0.3	Clear	
Florence, Arizona	28.63	727.2	30.23	767 8	47	8.3	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.29	718.6	.....	.....	—22	—30.0	60	SW	.....	.....	2	8cs	0	Calm	.....	0	0	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	50	10.0	51	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.23	640.8	30.19	766.8	53	11.7	53	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.67	753.6	30.25	768.3	20	— 6.7	85	N	12	5.4	.....	5c	0	N	.....	0	0	Fair	
Fort Griffin, Texas	28.91	734.3	30.28	769.1	24	— 4.4	74	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.74	704.6	.....	.....	— 3	—19.4	66	NW	11	4.9	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Fort McKavett, Texas	27.85	707.4	29.86	758.4	34	1.1	52	NE	10	4.5	.....	2c	0	SE	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.98	736.1	30.19	766.8	20	— 6.7	85	N	20	8.9	.....	2c	0	W	.....	0	0	Fair	
Fort Stevenson, Dakota	28.44	722.4	.....	.....	—24	—31.1	100	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.30	718.8	29.92	760.0	40	4.4	65	N	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	60	15.6	94	W	8	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Graham, Texas	29.12	739.6	30.26	768.6	24	— 4.4	74	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.34	745.2	30.04	763.0	14	—10.0	82	NW	16	7.2	.....	.....	10n	.....	Calm	0.23	5.8	Light snow	
Indianapolis, Indiana	29.27	743.4	30.12	765.0	14	—10.0	72	NW	4	1.8	.....	.....	10s	.....	NW	0.06	1.5	Cloudy	
Indianola, Texas	29.99	761.7	30.02	762.5	68	17.2	94	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Jacksboro, Texas	29.15	740.4	30.38	771.6	25	— 3.9	75	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.08	764.0	53	11.7	86	SW	8	3.6	.....	5k	0	SW	.....	0	0	Fair	
Keokuk, Iowa	29.61	752.1	30.31	769.9	4	—15.6	74	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Key West, Florida	30.10	764.5	30.13	765.3	64	17.8	89	N	8	3.6	.....	0	Fog	.....	Calm	0	0	Clear	
Kittyhawk, North Carolina	29.85	758.2	29.88	758.9	44	6.7	76	W	4	1.8	.....	10cs	0	NW	.....	0	0	Cloudy	
Knoxville, Tennessee	29.96	735.6	29.99	761.7	36	2.2	73	N	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
La Crosse, Wisconsin	29.48	748.8	30.32	770.1	— 3	—19.4	83	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
La Mesilla, New Mexico	26.14	663.9	30.29	769 4	38	3.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.50	749.3	29.84	757.9	53	11.7	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.50	749.3	30.46	773.4	5	—15.0	75	N	12	5.4	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Los Angeles, California	29.50	756.9	30.14	765.5	54.3	12.4	93	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.56	750.8	30.16	766.1	17	— 8.3	51	NW	10	4.5	.....	5c	2s	NW	Calm	0.08	2.0	Fair	
Lynchburg, Virginia	29.19	741.4	29.88	758.9	40	4.4	56	W	4	1.8	.....	0	5ks	.....	Calm	0	0	Fair	
Madison, Wisconsin	29.10	739.1	30.21	767.3	— 1	—18.3	68	NW	20	8.9	.....	0	0	.....	.....	0.02	0.5	Clear	
Marquette, Michigan	29.32	744.7	30.09	764.3	2	—16.7	72	NW	.....	.....	.....	0	5s	.....	NW	0.25	6.3	Fair	
Mason, Texas	28.45	722.6	30.29	769.4	34	1.1	70	NE	4	1.8	.....	Haze	5s	.....	Calm	0	0	Fair	
Memphis, Tennessee	29.82	757.4	30.16	766.1	29	— 1.7	67	N	12	5.4	.....	8c	0	W	.....	0	0	Fair	
Milwaukee, Wisconsin	29.35	745.5	30.15	765.8	5	—15.0	76	NW	13	5.8	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Mobile, Alabama	29.98	761.5	30.03	762.8	55	12.8	93	SW	4	1.8	.....	8c	0	NW	.....	0	0	Fair	
Montgomery, Alabama	29.75	755.6	29.99	761.7	53	11.7	93	SW	5	2.2	.....	8c	Fog	NW	Calm	0	0	Fair	
Morgantown, West Virginia	28.83	732.3	29.91	759.7	35	1.7	53	W	9	4.0	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Mt. Washington, N. H.	22.86	580.6	30.22	767.6	— 5	—20.6	100	NW	96	42.9	.....	.....	Fog	.....	NW	0.80	20.3	Foggy	
Nashville, Tennessee	29.59	751.6	30.16	766.1	27	— 2.8	88	NW	8	3.6	.....	.....	10ks	.....	NW	0	0	Cloudy	
New Haven, Connecticut	29.61	752.1	29.73	755.1	36	2.2	71	W	8	3.6	.....	5ck	2s	SW	Calm	0	0	Cloudy	
New London, Connecticut	29.67	753.6	29.72	754.9	35	1.7	80	W	5	2.2	.....	9ck	0	W	.....	0.02	0.5	Cloudy	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	61	16.1	88	SW	5	2.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Newport, Rhode Island	29.68	753.9	29.73	755.1	33	0.6	70	W	6	2.7	.....	5cs	0	W	.....	0.08	2.0	Fair	
New York, New York	29.62	752.3	29.80	756.9	34	1.1	79	W	16	7.2	.....	2cs	5s	Calm	Calm	Inap.	Inap.	Fair	
Norfolk, Virginia	29.81	757.2	29.87	758.7	44	6.7	68	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
North Platte, Nebraska	29.30	644.2	30.18	766.6	2	—16.7	72	Calm	0	0	.....	10ck	Haze	NW	Calm	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	29.93	760.2	29.97	761.2	39.0	3.9	91	S	3	1.3	.....	.....	10n	.....	Calm	0.60	15.2	Light rain	
Omaha, Nebraska	29.21	741.9	30.48	774.2	— 7	—21.7	80	NW	9	4.0	.....	0	0	.....	.....	0.04	1.0	Clear.	
Oswego, New York	29.46	748.3	29.81	756.9	17	— 8.3	84	NW	10	4.5	.....	.....	10n	.....	Calm	0.18	3.3	Light snow.	
Pembina, Dakota	29.37	746.0	30.36	771.1	—30	—34.4	100	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	29.79	756.7	29.84	757.9	34	1.1	70	W	18	8.0	.....	5k	0	W	.....	0	0	Fair	
Phœnix, Arizona	28.96	735.6	30.81	782.6	50	10.0	72	E	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.60	447.0	29.81	757.2	13	—10 6	100	NW	16	7.2	.....	.....	10n	.....	Calm	0.55	14.0	Heavy snow	
Ploche, Nevada	24.13	612.9	29.90	759.4	37	2.8	81	SW	1	0.4	.....	5k	0	SW	.....	Inap.	Inap.	Fair	
Pittsburg, Pennsylvania	29.09	738.9	29.94	760.5	21	— 6.1	71	NW	13	5.8	.....	10k	0	W	.....	0.01	0.3	Cloudy	
Port Huron, Michigan	29.24	742.7	29.97	761.2	8	—13.3	78	W	10	4.5	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
Portland, Maine	29.56	750.8	29.62	752.3	25	— 3.9	62	W	4	1.8	.....	0	Haze	.....	.....	0.25	6.3	Clear	
Portland, Oregon	30.08	764.0	30.18	766.6	41.3	5.2	87	S	3	1.3	.....	0	5s	.....	.....	0.13	3.3	Fair	
Prescott, Arizona	24.72	627.9	30.08	764.0	21	— 6.1	71	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.17	740.9	30.03	762.8	35	1.7	79	N	14	6.3	.....	8k	2s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.16	766.1	30.18	766.6	55	12.8	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.83	757.7	30.20	767.1	53	11.7	93	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rio Grande City, Texas	29.78	756.4	30.00	762.0	67	19.9	94	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.14	740.1	29.79	756.7	15	— 9.4	82	W	6	2.7	.....	.....	10n	.....	Calm	0.28	7.1	Light snow.	
Roseburg, Oregon	29.61	752.1	30.20	767.1	34.0	1.1	95	Calm	0	0	.....	5cs	2s	W	Calm	0	0	Fair	
Sacramento, California	30.13	765.3	30.22	767.6	54	12.2	93	SE	2	0.9	.....	.....	10ks	.....	W	0.46	11.7	Cloudy	
St. Louis, Missouri	29.66	753.4	30.29	769.4	12	—11.1	61	NW	12	5.4	.....	Haze	5s	.....	Calm	0.11	2.8	Hazy	
St. Marks, Florida	30.06	763.3	30.06	763.5	50	10.0	100	SW	4	1.8	.....	5c;cs	Fog	N	Calm	0	0	Fair	
St. Paul, Minnesota	29.38	746.2	30.34	770.6	—12	—24.4	80	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	42	5.6	83	Calm	0	0	.....	.....	10ks	.....	W	0.37	9.4	Cloudy	
San Antonio, Texas	29.33	745.0	29.92	760.0	46	7.8	69	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	30.10	764.5	30.17	766.3	53	11.7	100	N	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Sandusky, Ohio	29.30	744.2	30.00	762.0	25	— 3.9	75	NW	9	4.0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Sandy Hook, New Jersey	29.76	755.9	29.79	756.7	33	0.6	70	NW	16	7.2	.....	2ck	2ks	NW	NW	Inap.	Inap.	Cloudy	
San Francisco, California	30.15	765.8	30.22	767.6	54	12.2	93	NW	1	0.4	.....	.....	Fog	.....	Calm	0.56	14.2	Foggy	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	34	1.1	61	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.91	759.7	30.01	762.2	54	12.2	74	W	11	4.9	.....	8cs	0	Calm	.....	0	0	Fair	
Shreveport, Louisiana	29.83	757.7	30.06	763.5	41	5.0	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.37	619.0	30.72	780.3	35	1.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.91	759.7	29.95	760.7	51	10.6	86	W	6	2.7	.....	8cs	0	SW	.....	0	0	Cloudy	
Springfield, Massachusetts	29.60	751.8	29.74	755.4	27	— 2.8	53	N	6	2.7	.....	2c	0	NW	.....	Inap.	Inap.	Fair	
Stockton, Texas	26.95	684.5	29.95	760.7	48	8.9	63	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.72	754.9	29.74	755.4	29	— 1.7	67	W	19	8.5	.....	5c	0	W	.....	Inap.	Inap.	Fair	
Toledo, Ohio	29.26	743.2	29.98	761.5	20	— 6.7	70	NW	7	3.1	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Tucson, Arizona	27.66	702.6	30.21	767.3	46	7.8	54	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.98	761.5	30.01	762.2	52	11.1	86	W	6	2.7	.....	2cs	2s	W	W	0	0	Fair	
Umatilla, Oregon	29.92	760.0	30.46	773.7	13.0	—10.6	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	36	1.7	100	Calm	.....	.....	0	.....	10s	.....	NE	0.07	1.8	Cloudy	
Uvalde, Texas	29.09	738.9	29.91	759.7	51	10.6	59	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.03	762.8	52	11.1	66	N	6	2.7	.....	.....	10s	.....	N	0	0	Cloudy	
Virginia City, Montana	24.24	615.7	29.72	754.9	17	— 8.3	83	NE	1	0.4	.....	0	0	.....	.....	0.18	4.6	Clear	
Visalia, California	29.81	757.2	30.19	766.8	50.6	10.3	94	NE	3	1.3	.....	0	Fog	.....	Calm	0.02	0.5	Clear	
Washington, D. C.	29.76	755.9	29.88	758.9	33	0.6	55	N	4	1.8	.....	2c	5ks	Calm	SW	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	44	6 7	84	N	.....	.....	1	5c	0	W	.....	0	0	Fair	
Wilmington, N. Carolina	29.83	757.7	29.91	759.7	51	10.6	72	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	29.78	664.8	30.14	765.5	35	1.7	80	SW	5	2.2	.....	10k	0	SW	.....	Inap.	Inap.	Cloudy	
Wood's Holl, Mass	29.68	753.9	29.72	754.9	33	0.6	69	W	16	7.2	.....	5cs	2ks	NW	SW	0.13	3.3	Cloudy	
Yankton, Dakota	29.05	737 9	30.57	776.5	—13	—25.0	74	SW	6	2.7	.....	2k	0	W	.....	0.06	1.5	Fair	
Yuma, Arizona	29.93	760.2	30.09	764.3	54	12.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28 55	725.2	30.08	765.0	16	— 8.9	83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.06	763.5	30.11	764.8	68	20.0	75	Calm	0	0	.....	4k	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.95	760.7	30.03	762.8	74	23.3	.....	NE	20	8.9	.....	.....	.....	.....	.....	1.03	26.2	Drizzling	F. M Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.03	762.8	80	26.7	82	NE	.....	.....	3	5k	6ks	NE	.....	0	0	½ clouded	C. J. Hering.
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.09	764.3	30.14	764.5	—34.0	—36.7	.....	NW	11	4.9	.....	2cs	0	SW	.....	0	0	Foggy	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft.. or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 538.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,208 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 8,596 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.15	765.8	54	12.2	53	11.7	100	E	4	1.8	.....	.....	Fog	.....	.....	1.15	29.2	.....	.....	Heavy fog...	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	58	14.4	88	SW	18	8.0	.....	.....	5	.....	.....	0.02	0.5	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.75	755.6	75	23.9	25	— 3.9	87	W	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.09‡	764.3‡	.....	.....	38.5	3.6	72	N	.....	.....	1	.....	1k	.....	SW	0	0	.....	.....	Fair.....	
Adams, N. 6° 59', W. 79° 33'.....	29.98	761.5	76	24.4	76	24.4	95	N	.....	.....	3	.....	5	.....	N;E	.....	.....	Mod'ate	N;E	Fair.....	
Alaska, N. 28° 25', W. 107° 01'.....	30.18	766.6	69	20.6	66	18.9	84	NW	.....	.....	2	.....	0	.....	.....	0	0	Mod'ate	W	Blue sky....	
Alliance, Villafranca, France.....	29.80‡	756.9‡	.....	.....	64	17.8	42	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	Long	S	Clear.....	
Ashuelot, Hong-Kong, China.	30.15‡	765.8‡	.....	.....	60	15.6	65	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Canonicus, New Orleans, La.....	30.01	762.2	46	7.8	60	15.6	94	SW	.....	.....	3	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.....	29.73	755.1	34	1.1	34	1.1	100	SW	3	1.3	.....	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Constitution, N 48° 29', W. 16° 36'.....	29.40‡	746.7‡	.....	.....	48	8.9	100	WNW	.....	.....	8	.....	7	.....	NW	.....	.....	Heavy	W	Showery...	
Despatch, Constantinople, Turkey	29.62‡	752.3‡	.....	.....	64	17.8	68	SSW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Essex, S. 42° 08', W. 56° 23'.....	29.90	759.4	64	17.8	60	15.6	100	NNW	.....	.....	5	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Franklin, Norfolk, Va.....	30.00	762.0	70	21.1	44	6.7	68	S	3.0	1.3	.....	.....	8	.....	Calm	0	0	.....	.....	Hazy.....	
Gettysburg, Genoa, Italy	29.72‡	754.9‡	.....	.....	61	16.1	88	SSE	.....	.....	0–1	.....	0	.....	.....	0	0	.....	.....	Fair.....	
Hartford, Montevideo, Uruguay...	29.86	758.4	74	23.3	75	23.9	86	E	.....	.....	4	.....	8	.....	.....	0	0	Mod'ate	E	Cloudy	
Lackawana, Panama.....*...	29.75‡	755.6‡	.....	.....	77	25.0	95	WNW	.....	.....	1	.....	8	.....	.....	0.06	1.5	.....	.....	Cloudy	
Michigan, Erie, Pa.....†	29.91	759.7	.....	.....	14	—10.0	82	W	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China.....*	30.38‡	771.6‡	.....	.....	44	6.7	68	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*..	30.06‡	763.5‡	.....	.....	37	2.8	100	W	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Misty.....	
New Hampshire, Port Royal, S. C.....	30.02	762.5	55	12.8	55	12.8	68	WSW	10	4.5	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru..... ....†	30.04	763.0	.....	.....	68	20.0	95	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.18	766.6	42	5.6	32	0.0	69	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Passaic, Washington, D. C.....	.....	.....	.....	.....	34	1.1	90	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, S. 22° 50', W. 100° 00'.....	30.08‡	764.0‡	.....	.....	70	21.1	85	NE	13	5.8	.....	.....	8	.....	E	.....	.....	Long	S	Showery.....	
Powhatan, St. Thomas, W. I	30.19	766.8	79	26.1	78	25.6	73	E	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.80‡	756.9‡	.....	.....	62	16.7	61	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Light ground	S	Clear.....	
Ranger, Kobe, Japan.....*...	30.22‡	767.6‡	.....	.....	51	10.6	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 36° 15' W. 3° 17'.....	30.16‡	766.1‡	.....	.....	62	16.7	66	W	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	W	Clear..	
Rio Bravo, Brownsville, Texas.....	29.93	760.2	65	18.3	63	17.2	100	S	.....	.....	2	.....	2	.....	S	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md...	29.85‡	758.2‡	.....	.....	36	2.2	70	NW	.....	.....	2	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.77	756.1	61	16.1	33	0.6	.....	WNW	8	3.6	.....	.....	8	.....	WNW	0	0	.....	.....	Cloudy.....	
Supply, N. 21° 55', W. 27° 23'.....	30.21‡	767.3‡	.....	.....	74	23.3	72	ENE	.....	.....	4–5	.....	5	.....	ENE	.....	.....	Long	ENE	Fair	
Trenton Villafranca, France *...	29.79‡	756.7‡	.....	.....	65	18.3	38	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, N. 17° 40', W. 102° 11'.....	29.99‡	761.7‡	.....	.....	75	23.9	86	NE	.....	.....	1–2	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Wabash, Boston, Mass.....	29.72‡	754.9‡	.....	.....	26	— 3.3	88	NW	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wyoming, Smyrna, Turkey.....	29.93	760.2	69	20.6	67	19.4	89	SSE	.....	.....	6–7	.....	5	.....	S	.....	.....	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 19° 07′, W. 104° 43′...†		30.02‡	762.5‡	70	21.1	95	Calm			0		9		SW	0	Very small	SW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Connolly.
S. S. Granada N. 36° 30′, W. 122° 10′..†*		30 36‡	771.1‡	55	12.8	??	Calm			0		Fog			0	Large	WSW	Foggy	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, S. 0° 33′, W. 165° 59′		29.92‡	760.0‡				E			4		0				Long; mod'ate	WNW; NE	Hazy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 38° 29′, E. 144° 38′...*		29.99‡	761.7‡	56	13.3	87	NW			4		k		WNW		Mod'ate	NW	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 47° 28′, W. 29° 47′		29.96	761.0	52.2	11.2		N			7		10		N	Blank	9	N;NW	Stormy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 47° 11′, W. 42° 41′		30.21‡	767.3‡	52	11.1	??	W			6		5		W	Blank	Mod'ate	W	Cloudy	Captain Sargent.
S. S. Ohio, N. 46° 12′, W. 33° 25′. †.		30.15‡	765.8‡	52	11.1	93	NW			4		8		NW	0	Large	NW	Cloudy	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The original give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 48° 22′, W. 41° 01′		30.06‡	763.5‡	52	11.1		SW			8		10c;s		SW		High	SW	D. clouds	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 14, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Mogador, Marocco	.....	.....	30.31	769.8	60.6	15.9	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.00	762.1	64.0	17.8	64	WNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.80	757.0	63.7	17.6	61	W	.....	.....	4	.....	0	.....	.....	Inap.	Inap.	Clear	Touriliere.
La Calle	.....	.....	29.79	756.7	69.8	21.0	67	NW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	29.91	759.7	66.4	19.1	49	W	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	29.95	760.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.93	760.2	64.0	17.8	47	W	.....	.....	4	.....	5	.....	.....	0.091	2.3	Cloudy	Herbin.
Tebessa	.....	.....	29.94	760.4	63.3	15.7	36	W	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	29.90	759.4	51.8	10.7	97	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	29.95	760.7	66.6	19.2	23	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.95	760.7	65.8	18.8	39	SE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.26	743.3	29.82	757.5	45.0	7.2	62	NE	.....	.....	4	.....	7	.....	.....	0.067	1.7	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.06	738.2	29.85	758.2	37.0	2.8	82	W	.....	.....	2	.....	10	.....	.....	0.028	0.7	.....	Dr. Wierzbiski
Eperies	28.90	734.0	29.80	756.9	39.2	4.0	80	Calm	.....	.....	0	.....	10s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.54	724.8	29.82	757.3	38.5	3.6	69	SSE	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.38	720.8	29.84	757.8	39.0	3.9	73	NNW	.....	.....	1	.....	10	.....	.....	0.010	0.40	.....	Prof. A. Gottschling.
Kremsmünster	28.31	719.2	29.69	754.1	36.7	2.6	77	ENE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.74	730.0	29.76	755.8	35.2	1.8	84	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.68	753.7	29.75	755.6	53.4	11.9	75	SE	.....	.....	4	.....	9	.....	.....	0	0	.....	I.R.Hydrographic Office.
Szathmar	29.39	746.4	29.86	758.5	40.6	4.8	59	W	.....	.....	3	.....	6	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.56	750.9	29.81	757.2	42.8	6.0	67	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.68	753.8	29.78	756.4	52.5	11.4	66	Calm	.....	.....	0	.....	10	.....	.....	0.724	18.4	Raining	P. Busin.
Vienna	29.05	737.8	29.78	756.5	39.7	4.3	66	SE	.....	.....	2	.....	8	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	10	.....	.....	0.018	0.45	.....	Prof. M. Passau.
Brussels	29.42	747.3	29.62	752.4	41.9	5.5	88	SE	.....	.....	2	.....	10	.....	S	0.146	3.7	Raining	Royal Observatory
Furnes	29.58	751.2	29.60	751.8	43.3	6.3	96	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.62	749.9	29.65	753.1	41.2	5.1	88	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m., Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.74	755.4	29.84	757.9	38.7	3.7	.....	SE	24	10.7	.....	.....	9	.....	.....	0.015	0.38	Overcast	W. Boswell.
Ardrossan	29.62	752.3	29.64	752.8	41	5.0	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	William McNeil.
Armagh, Observatory	.....	.....	29.58	751.3	40.2	4.6	.....	ENE	11	4.9	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.52	749.8	43 0	6.1	.....	ENE	17	7.6	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton, (Sharples)	.....	.....	29.58	751.3	40.0	4.4	.....	ENE	24	10.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.19	741.4	29.58	751.3	39.5	4.2	.....	E	.....	.....	1	.....	10	.....	.....	0.53	13.5	Raining	J. McLandsborough.
Bridgetown, (Barbados)	29.92	760.0	29.98	761.5	80	26.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.54	750.3	48.0	8.9	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [C.
Cardington	.....	.....	29.52	749.8	47.6	8.7	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.40	746.7	29.54	750.3	46.9	8.3	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	27.92	709.2	29.39	746.5	45.0	7.2	.....	SE	.....	.....	3	.....	4	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	29.56	750.8	29.60	751.8	40	4.4	.....	SE	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.52	749.8	29.54	750.3	44	6.7	.....	ESE	.....	.....	3	.....	9	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	29.17	740.9	29.40	746.7	47.9	8.8	.....	ESE	.....	.....	1	.....	9	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.78	705.6	30.10	764.5	66.0	18.9	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	Pvt. S.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.68	753.9	29.91	759.7	88	31.1	.....	S	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.46	748.3	44	6.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.94	760.5	30.00	762.0	57.4	14.1	.....	W	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.47	748.5	29.67	753.6	39.6	4.2	.....	ENE	.....	.....	7	.....	9	.....	.....	.....	.....	Squally	D. G. Maclean.
Great Yarmouth	29.59	751.6	29.60	751.8	38	3.3	.....	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	29.34	745.2	29.52	749.8	48.2	9.0	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy
Guernsey	29.18	741.2	29.40	746.7	48	8.9	.....	SSE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.33	745.0	29.45	748.0	50	10.0	.....	E	.....	.....	1	.....	4ck	.....	.....	0.15	3.8	Fine	M. P. Moyle.
Holyhead	29.45	748.0	29.50	749.3	43	6.1	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.14	740.1	29.43	747.5	47.3	8.5	.....	SSE	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.47	748.5	29.51	749.5	49.3	9.6	.....	SE	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty	The Meteorological Of.
Leicester, Museum	29.27	743.4	29.53	750.0	46.3	7.9	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	60	15.6	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky	Sergt. H. J. Bockett, A. H. C.
Nairn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. B. Penny.
Nassau, (Bahamas)	.....	.....	30.09	764.3	71.6	21.9	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.37	746.0	29.56	750.8	44.7	7.1	.....	E	.....	.....	1	.....	10n	.....	S	0.127	3.23	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.99	736.3	29.61	749.5	45.9	7.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.50	749.3	47	8.3	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.32	744.7	29.39	746.5	49.8	9.9	.....	SE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.39	746.5	29.43	747.5	48	8.9	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.25	742.9	29.42	747.2	46	7.8	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.88	758.9	37.2	2.9	.....	ESE	28	12.5	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.80	756.9	44.0	6.7	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	W. H. Lyne.
Sheffield	29.29	744.0	29.58	751.3	40.0	4.4	.....	N	.....	.....	1	.....	10	.....	.....	0.19	4.8	Drizzling	W. F. Cooper.
Silloth Rectory	29.57	751.1	29.60	751.8	41.4	5.2	86	E	.....	.....	5	.....	4	.....	.....	0.010	0.25	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	29.18	741.2	29.58	751.3	38.7	3.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stratfield Turgiss	29.28	743.7	29.50	749.3	46.7	8.2	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	C.H.Griffith, F. M.S.
Thurso	29.81	757.2	29.88	758.9	38	3.3	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.41	747.0	52	11.1	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	W. Marycombe
Valencia, Observatory	29.49	749.0	29.52	749.8	46.7	8.2	.....	NNW	10	4.5	.....	.....	7	.....	.....	.....	.....	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.07	763.8	30.10	764.5	85	29.4	28	S	9	4.0	.....	0	1	.....	.....	0	0	Fine	The Staff.
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.74	755.4	38.8	3.8	.....	E	.....	.....	3	.....	10ks	.....	.....	0.05	1.3	Overcast	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.95	760.8	82.3	27.9	72	E	22.0	9.8	.....	5	2	WSW	ENE	0.30	7.6	Squally	C. Meldrum.
Melbourne, Observatory	30.01	762.2	30.10	764.5	59.1	15 1	60	SE	10	4.5	.....	.....	4	.....	.....	0.01	0.3	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.65	753 1	41	5.0	.....	E	.....	.....	4	0	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.99	761.7	36	2.2	.....	E	.....	.....	4	4	8	Calm	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Brig Catherine				Capt. Alex. Wilson.
Barque Commewyne				Capt. A. Buchan.
H. S. Gordon Castle				Capt. W. Waring.
Barque Margaret Smith				Capt. D. W. A. Quaile
Schooner Traveller				Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.27	667.2	29.99	761.7	63.5	17.5	87	SE			1	1ks	2s	NE		Inap.	Inap.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.86	758.4	29.92	759.6	27.3	— 2.6	79	ENE			2		0						
Farõe	29.87	758.7	29.89	759.2	30.2	— 1.0	80	ENE			4		7						
Godthaab, (Greenland)	28.94	735.1	28.98	736.2	17.8	— 7.9	83	NNE			4		9						
Stykkisholm, (Iceland)																			
Thorshavn, (Farõe)	29.93	760.3	29.97	761.2	39.4	4.1	98	ESE			4		10						
Vestervig	29.76	756.0	29.93	760.3	23.9	— 4.5	95	SE			2		6						Foggy

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.98	736.1	29.53	750.1	46.0	7.8	97	S			1		10			0.102	2.6	Covered	Collignon, Director.
Amiens, Normal School	29.44	747.8	29.55	750.6	47.1	8.4	94	E			5		10			0.138	3.5	Covered	Bonvallet, Director *
Avignon, Normal School	29.54	750.3	29.62	752.8	52.7	11.5	73	NNE			1		10			0.024	0.6	Covered	M. Giraud, Director.
Bar-sur-Seine	29.03	737.4	29.60	751.8	46.2	7.9	80	S			1		8		SW	0.303	7.7	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.29	744.0	29.68	751.2	46.6	8.1	87	ESE			1		8		S	0.069	1.75	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.77	730.8	29.67	753.5	45.7	7.6	75	S			2		10			0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.75	730.2	29.65	753.0	43.(	6.1	94	S			3		n	N	N	0.098	2.5		M. Marlot, Director.
Bourges, Normal School	28.97	735.7	29.51	749.6	51.8	11	88	E			3		2	E	E	0.35	9.	Slightly cl'dy	A. Waquet, Director
Brest, Naval Observatory	29.12	737.2	29.27	743.4	49.3	9.6	81	SE			3		10		SE	0.177	4.50	Raining	M.de Rermaree, Director
Carcassonne, Normal School	29.13	739.9	29.58	751.4	50.(	10	84	NNE			2		5	E	E	0.012	0.3	Cloudy	September, Director.
Caen, Normal School	29.35	745.5	29.43	747.4	50.(	10	79	SE			3		5		NW	0.047	1.2	Cloudy	M. Lair, Director.
Chartres, Normal School	28.95	735.4	29.52	749.8	44.2	6.8	74	SSW			3		10		NW	0.079	2.0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.32	744.8	29.65	753.1	43.5	6.4	82	N			3		8	S	S	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fdd Puy de D.Obs	28.18	715.8	29.52	749.7	53.1	11.7	69	E			1		10		WSW	0.035	0.9	Covered	Alluard, Director.
Commercy, Normal School	28.78	731.1	29.68	753.9	39.2	4	97	SE			1		10		SE	0.16	4.	Light rain	Dr. Coulet, Director
Commune de Grésque*	28.50	724.0	29.65	753.0	48.4	9.1	81	NE			2		10		SE	0.130	3.3	Covered	M. Kins, Director.
Grenoble, Normal School	28.90	734.0	29.68	753.8	45.0	7.2	85	ENE			2		5kn		N	0	0	Cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.25	743.0	29.47	748.4	50.(	10.0	86	S			1		5		SW	0.094	2.4	Cloudy	Mouillot, Director
Le Mans, Normal School	29.20	741.6	29.50	749.4	46.4	8.0	94	SSE			1		10		SSE	0.039	1.0	Covered	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.73	729.8	29.66	753.3	44.4	6.9	68	S			4		8		W	0.094	2.40	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	29.26	743.1	29.36	745.7	50.0	10.0	86	SE			5				SE	0.378	9.6		Lt T. Carré, Director.
Mâcon, Normal School																			M. Galsin, Director
Mirecourt, Normal School	28.60	726.4	29.66	753.3	42.4	5.8	88	SSE			1		kn		NNW	0	0		M. Barbier, Director.
Nismes, Normal School	29.39	746.4	29.59	751.5	54.0	12.2	65	E			1		5		NE	0.55	14.	Cloudy	Boyer, Director.
Privas, Normal School	28.66	727.8	29.72	755.0	47.5	8.6	76	N			1		n	S	N	0	0		M. Cantier, Director.
Puy de Dome (Summit) Obs	24.70	627.4			32.4	0.2	100	W			2		9	W		0.031	0.8	Almost cov.	Alluard, Director.
Rochefort, Naval Obs'y	29.46	748.3	29.49	749.1	49.6	9.6	97	S			1		10	SW	SW	0.47	12.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.43	747.4	29.51	749.5	50.4	10.2	72	SSE			1		8		SSE	0.087	2.2	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.41	747.0	29.44	747.8	53.2	11 8	67	SSE			2		2	SSE	SSE	0.134	3.39	Light clouds	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.39	746.4	29.55	750.6	50.7	10.4	76	SE			1		8	SSE	SSE	0.055	1.4	Very cloudy	E. Renou, Director.
Tarbes, Normal School	28.45	722.7	29.53	750.1	50.0	10	50	S			4		10			0.24	6.	Raining	T. Huguet, Director.
Versailles Observatory	28.91	734.2	29.62	752.4	46.0	7.8	97	S			3		10		SE	0	0	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.05	737.8	29.54	750.4	49.3	9.6		S			1		10			0 069	1.75	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.96	761.0	30.09	761.7	75.6	24.2										0.83	21.		L'Abbé Marchesi.
Lyons, Observatory			29.61	752.0	51.8	11.0	81	SSE			2		8			0.059	1.5	Very cloudy	Mr. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis	24.35	618.5	29.67	753.5	39.2	4.0	64	SW			3		8		SW	0	0		M. Cave.
Nice			29.68	753.8	40 6	9.8	86	N			2		10					Rainy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.27	743.5			49.8	9.6	83	S			3		10		S	0.091	2.3		Marié Davy, Director.
Perpignan	29.44	747.7	29.54	750.4	50.4	10.2	85	E	7.4	3.3			9		NE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P																			M. Baylac.
Pic du Midi, (Plantade,) H. P	22.02	559.3			29.5	— 1.4		SW			1		10			0.189	4.8	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	28.84	732.6	29.56	750.7	52.(	11.6	77	SSE			3		8			0.295	7.5		M. Mercadier Juller.
Tours	29.20	743.9	29.48	748.9	47.7	8.7	89	S			1		10		W	0.087	2.2		Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.18	766.6	30.21	767.2	40.1	4.5	80	S	4.3	1.9			0			0.047	1.2	Clear	Marc Deschevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.87	733.2	29.70	754.4	38.7	3.7	61	E			6		8	E		0	0		Prof. Dr. Hoh.
Berlin	29.71	754.6	29.89	759.2	30.0	— 1.1	79	N			1		10			0	0		Prof. Arndt.
Breslau	29.84	745.1	29.86	758.5	33.6	0.9	84	N			1		10			0.087	0.96		Royal University Obs'y
Carlsruhe	29.24	742.6	29.67	753.5	40.3	4.6	84	E			2		10			0.012	0.3	Light rain	Albert Senz.
Cassel	29.09	738.9	29.69	754.2	39.9	4.4	64	SE			2		8	W		0	0		Dr. H. Möhl.
Crefeld	29.54	750.3	29.70	754.4	43.5	6.4	62	SE			3		8			0	0		Director Lose.
Emden					33.6	0.9	76	NE			2		0			0	0		Prof. Prestel.
Frankfort on the Main	29.36	745.6	29.72	755.0	43.5	6.4		SE			2		7			0	0		Physical Society.
Friedrichshafen	28.23	717.1	29.61	752.1	38.5	3.6	77	N			1		10	NE		0	0		M. Wilhelm.
Hamburg	29.78	756.4	29.85	758.3	29.8	— 1.2	90	E			3		8cs			0	0	Fair	Captain F. Hegemann.
Kiel	29.86	758.5	29.88	758 9	31.8	— 0.1	84	NE			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.77	756.1	29.85	758.3	30.2	— 1.0	86	N			2		8			0.020	0.5	Snowing	Prof. E. Luther.
Köslin			29.84	757.9	31.8	— 0.1		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.40	746.7	29.83	757.7	37.8	3.2	59	E			2		9			0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.78	756.4	29.83	757.6	30.0	— 1.1	73	N			1-2		10cs						Skalweit.
Neufahrwasser	29.87	758.6	29.88	759.0	31.3	— 0.4	81	NW			2		10			0.016	0.4	Snowing	A. Lothes.
Posen	29.60	751.8	29.90	759.5	32.9	0.5	88	E			2		10			0.047	1.2	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.13	739.9	29.69	754.1	40.3	4.6	89	NE			2		10	N		0.052	1.32	Raining	Imp. University Observatory.
Stuttgart	28.71	729.1	29.62	762.4	42.4	5.8	52	E			1		10			0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.21	716.4	29.74	755.5	37.4	3.0	67	E	9	4			10			0.024	0.6	Light fog	Dr. Van Bebber.
Wustrow, Naval School	29.84	757.9	29.86	758.5	31.5	— 0.3	96	NE			1		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.47	748.4	29.85	758 3	60.6	15.9		NW			1.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.5	29.95	760.8	75.0	23.9	40	WSW	26	11.6			0			0	0	Blue sky	
Deesa	29.39	746.4	29.86	758.6	78.6	25.9	40	WSW					6	SW		0	0	D. clouds	
Bombay	29.89	759.1	29.92	760.1	77.2	25.1	72	WSW	14	6.3			3	W		0	0	D. clouds	
Poonah	27.94	709.6	29.93	760.1	83.4	28.6		NE					0			0	0	Blue sky	
Lahore	29.16	740.8	29.93	760.2	67 7	19.8	30	Calm	0.8	0.4			10			0	0	Blue sky	
Belgaum	27.36	695.0	29.87	758.7	82.9	28.3	47	W	10	4.5			1			0	0	D. clouds	
Roorkee	29.00	736.6	29.93	760.1	66.8	19.3	40	Calm	1	0.4						0	0	Blue sky	
Agra	29.35	745.4	29.92	759.9	75.7	24.3	27	E					9		E	0	0		
Nagpur	28.81	731.9	29.85	758.1	84.6	29.2	40	W	3.2	1.4						0	0	Blue sky	
Lucknow	29.57	751.0	29.96	760.9	62.4	16.9	64	Calm	0.8	0.4			10			0	0	Overcast	
Allahabad	29.62	752.4	29.94	760.5	73.6	23.1	34	Calm	0.3	0.1			10		NW	0	0	Overcast	
Patna	29.78	756.3	29.96	761.1	67.6	19.8	63	W	0.5	0.2			8	W	W	0	0	D. clouds	
Hazaribagh	27.90	708.5	29.94	760.5	71.3	21.8	16	N	3.5	1.6			4			0	0		
Cuttack	29.84	758.0	29.93	760.2	81.5	27.5	60	SSW	2.3	1.0			0			0	0	Blue sky	
Calcutta (Alipore)	29.93	760.2	29.95	760.8	74.7	23.7	69	NW	0.5	0.2			0			0	0	Blue sky	
Goalpara	29.56	750.9	29.96	761.0	72.2	22.3	42	Calm	3.6	1.6			1			0	0	Blue sky	
Chittagong	29.88	758.8	29.96	761.0	78.8	26.2	51	NNW	5.4	2.4			0			0	0	Misty	
Sibsagar	29.65	753.1	30.00	761.9	67.4	19.7	69	ENE	1.5	0.7			6			0.12	3.0	D. clouds	
Jubbulpore	28.49	723.6	29.85	758.1	82.5	28.1	18	Calm	2.9	1.3			3			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,019 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.36	745.8	29.78	756.3	47.7	8.7	67	E	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.64	752.9	29.75	755.7	48.6	9.2	80	NE	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.20	741.7	29.73	755.1	44.8	7.1	88	SSE	.....	.....	2	.....	10	S	.....	1.079	27.4	.....	Prof. Schiaparelli.
Moncalieri	28.81	731.8	29.72	755.0	43.3	6.3	86	NNW	4.3	1.9	.....	.....	9	N	.....	0	0	.....	Prof. F. Denza.
Mondovi	27.78	705.6	29.69	754.2	41.0	4.0	84	NW	.....	.....	2	.....	10	.....	.....	0.055	1 4	.....	Prof. D. C. Bruno.
Genoa	29.52	749.8	29.71	754.6	49.1	9.5	94	Calm	0	0	.....	.....	10	S	.....	0.362	9.2	.....	Prof. G. M. Garibaldi.
Florence	29.49	749.0	29.75	755.6	55.4	13.0	78	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.05	763.2	29.74	755.4	58.1	14.5	67	S	1.6	0.8	.....	.....	10	.....	.....	0.559	14.2	.....	Prof. P. Monte.
Pesaro	29.70	754.3	29.74	755.5	56.1	13.4	60	W	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.64	752.8	29.81	757.2	56.7	13.7	68	S	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.64	752.9	29.89	759.3	57.2	14.0	64	WSW	4.3	1.9	.....	.....	7	.....	.....	0.024	0.6	.....	Prof. C. De Giorgi.
Cagliari	29.67	751.0	29.76	755.9	58.6	14.8	75	SE	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.00	736.5	29.89	759.1	57.4	14.1	77	NW	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.64	752.8	29.89	759.3	60.4	15.8	48	WSW	5.6	2.5	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.83	757.7	29.91	759.6	59.4	15.2	59	SSW	2.5	1.1	.....	.....	10	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.34	745.3	29.90	759.4	55.4	13.0	77	W	1.8	0.8	.....	.....	9	.....	.....	0.307	7.8	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.16	766.0	30.18	766.6	40.6	4.8	77	N	2.9	1.3	.....	.....	0	.....	.....	0.025	0.63	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.95	760.7	30.16	766.0	44.0	6.7	62	NE	0.1	0.04	.....	.....	10s	.....	.....	0	0	Cloudy	S. Takahayashi.
Tokei (Yeddo) Observatory	30.07	763.8	30.14	765.5	38.9	3.8	67	SW	3.3	1.5	.....	0	0	.....	.....	0	0	Clear.	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.14	638.4	30.36	771.0	41.0	5.0	45	SW	.....	.....	1	1s	0	.....	.....	0	0	Clear.	Prof. L. Perez.
Leon	24.61	622.7	30.19	766.9	52.0	11.1	63	S	.....	.....	1	0	0	.....	.....	0	0	.....	Prof. M. Leal
Mexico, Central Obs'y	23.13	587.5	30.32	770.0	44.6	7.0	53	Calm	0	0	.....	0	1s	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascallientes)	.....	.....	.....	.....	44.6	7.0	53	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	M. V. de Leon, M. E.
Tlacotalpam	30.03	762.7	30.04	763.0	66.0	18.9	94	SW	.....	.....	1	0	0	.....	.....	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.28	616 7	30.28	768.9	45.0	7.2	40	NE	.....	.....	.....	0	0	.....	.....	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	30.05	763.3	30.08	764.0	69.8	21.0	91	Calm	0	0	.....	.....	.....	.....	.....	0	0	Very foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.43	595.0	30.18	766.5	42.1	5.6	55	NNE	0	0	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.42	721.9	30.10	764.5	70.9	21.6	63	N	.....	.....	1	0	0	.....	.....	0	0	Clear.	R. Banda, C. E.
San Juan E. Michapam	29.95	760.8	30.08	764.2	64.5	18.0	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Misty	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.6 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.91	759.8	29.91	759.8	42.6	5.9	.....	S	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....
Groningen	29.73	755.1	29.78	756.5	34.7	1.5	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Helder	29.71	754.5	29.71	754 5	36.9	2.7	.....	ENE	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.65	753.1	29.65	753.1	41.0	5.0	83	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.65	753.0	29.69	754.2	42.3	5.7	68	ESE	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.86	759.0	29.94	760.4	34.5	1.4	74	NNE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.64	752.9	29.68	753.9	31.1	0.5	86	NNW	25	11	.....	.....	9	.....	.....	0.035	0.9	Light snow..	
Christiania	29.72	755.0	29.88	759.0	17.8	— 7.9	100	Calm	0	0	.....	.....	0	.....	.....	0	0	Foggy	
Tromsö	29.41	746.9	29.45	748.0	27.7	— 2.4	92	S	7	3	.....	.....	9	.....	.....	0.575	14.6	Snowing.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.42	772.6	30.61	777.5	56.7	13.7	80	WNW	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.18	741.2	30.23	767.8	50.7	10.4	77	W	11.9	5.3	.....	.....	7	W	.....	0.316	8.0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.20	769.3	30.37	771.5	65.5	18.6	52	S	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.6	30.04	762.9	50.4	10.2	85	NW	12.5	5.6	.....	.....	8	.....	.....	0.457	11.6	.....	The Staff.
Ponta Delgada, (Azores)	30.55	775.9	30.62	777.7	61.2	16.2	55	N	12.5	5.6	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	.....	
Rio Douro	2	W	Blue sky.....	A. J. de Mattos, Com'd't.
Rio Lima, Capt. S. C. da SilvaCosta, Porto de San Jose, de Bissao, N. 11° 51′, W. 15° 37′	.....	.....	.....	J. T. d'Oliverla, Com'd't
Sá da Bandeira, St. Paul de Loando	1	.....	D. Clouds ...	A. Ferreira, 2nd Lt.
Sado	1	.....	Blue sky.....	F. Teixeira da Silva, Com'd't.
Tejo, Macao, China	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
	0	.....	Misty.....	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeirà gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.41	746.9	29.85	758.1	31.3	— 0.4	90	NNW	4	2	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Astronomical Obs.
Wilna	29.32	744.7	29.76	755.9	24.6	— 4.1	92	NW	11	5	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.43	747.4	29.68	753.9	21.2	— 6.0	79	W	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.60	751.8	29.61	752.2	9.9	—12.3	96	SSE	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Central Physical Obs.
Kieff	28.94	736.1	29.63	752.6	35.2	1.7	80	NW	7	3	.....	.....	10ks;s	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.63	752.5	29.70	754.3	38.5	3.6	93	NNE	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.67	753.5	29.69	754.0	50.4	10.2	100	S	4	2	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.10	739.1	29.69	754.2	7.5	—13.6	75	E	9	4	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.33	745.0	29.54	750.2	16.9	— 8.4	78	SW	4	2	.....	.....	6	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.97	761.3	29.99	761.8	—10.1	—23.4	77	ESE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.61	724.1	29.91	759.7	58.8	14.9	47	Calm	0	0	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.91	759.7	29.83	757.6	46.6	8.1	79	SSE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.27	743.5	29.78	756.5	9.3	—12.6	79	E	11	5	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.55	750.6	30.85	758.2	1.0	—17.2	78	E	2	1	.....	.....	10	.....	.....	.....	.....	Snowing.....	Physical Cabinet.
Ekaterinburg	29.04	737.6	30.11	764.9	— 4.5	—20.3	82	E	4	2	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nukuss	29.88	758.9	30.11	764.8	55.6	13.1	20	S	2	1	.....	.....	3cs	.....	.....	.....	.....	.....	
Tashkend	28.59	726.2	30.34	770.6	48.2	9.0	59	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.75	755.6	30.32	770.0	— 6.7	—21.5	69	NW	4	2	.....	.....	3	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	30.06	763.6	30.41	772.3	—25.1	—31.7	75	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.82	757.5	29.97	761.1	33.8	1.0	60	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.46	748.3	29.57	751.0	58.6	14.8	56	WSW	3.8	1.72	.....	.....	4ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.93	760.1	29.98	761.6	57.9	14.4	68	W	7.4	3.33	.....	2	1	SE	.....	0.024	0.6	Almost clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.67	677.4	.....	.....	45.0	7.2	88	W	14.5	6.50	.....	.....	7	.....	.....	0.024	0.6	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.45	697.1	.....	.....	45.3	7.4	72	W	22.4	10.00	.....	0	10	.....	.....	0.283	7.2	Covered.....	The Staff.
Murcia, Met. Obs'y	29.60	751.9	29.75	755.7	64.9	18.3	54	WNW	8.4	3.75	.....	6	4	SE	.....	Inap.	Inap.	.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.77	730.7	29.67	753.5	49.1	9.5	99	W	18.6	8.3	.....	.....	10	.....	.....	0.870	22.1	Raining.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.06	763.5	30.13	765.2	64.8	18.2	85	Calm	0	0	.....	3ck	2k	NE	ENE	0	0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.91	759.7	29.96	761.1	80.6	27.0	74	NE	0	0	.....	.....	.....	.....	.....	0	0	Clear.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	763.1	55.9	13.3	58	WNW	21.3	9.5	.....	0	5	.....	NW	0.150	3.8	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	74.5	23.6	92	SE	4.8	2.13	.....	4ks	3k	SE	SE	0	0	Cloudy.....	Leonardo de Tejeda, Ch't. Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 665.5 m., or 2,160.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.58	751.3	29.62	752.3	5.9	—14.5	.....	E	.....	.....	2	.....	10	.....	.....	0.024	6.0	.....	
Umea	29.55	750.5	29.60	751.8	11.1	—11.6	93	N	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing	
Hernosand	29.54	750.4	29.60	751.7	19.8	— 6.8	84	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	
Stockholm	29.52	749.9	29.70	754.4	21.9	— 5.6	80	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	29.69	754.2	29.75	755.7	30.9	0.6	81	WNW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.60	751.8	29.67	753.7	24.3	— 4.3	77	WSW	7.2	3.2	.....	.....	1	NW	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.25	717.6	29.74	755.4	34.2	1.2	98	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	The Observatory.
Zurich	28.05	712.4	29.75	755.6	36.3	2.4	91	SE	.....	.....	2	.....	10	.....	.....	0.063	1.6	Raining	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —8.7 mm.; Thermometer, —2.4 ent.; Relative Humidity, +26 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.83	757.6	42.8	6.0	83	N	11	5.0	.....	.....	10	.....	N	0.260	6.6	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.90	759.5	56.5	13.6	.....	NW	.....	.....	1	.....	2	.....	.....	0.12	3	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.74	755.4	29.85	758.2	73.0	22.8	51	SW	.....	.....	4	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.80	756.9	29.87	758.7	— 0.5	—18.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.86	758.4	30.22	767.6	—15	—26.1	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.85	758.2	29.92	760.0	— 5	—20.6	96	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.87	758.7	29.91	759.7	8	—13.3	89	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.94	760.5	30.16	766.1	—13.0	—25.6	100	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.89	759.2	29.94	760.5	38.1	3.4	100	Calm	.....	.....	.....	.....	10	.....	.....	0.32	8.1	Overcast	W. H. Bevis.
*Father Point, Quebec	29.92	760.0	29.94	760.5	— 1	—18.3	63	W	25	11.2	.....	5c	2s	NW	NW	0	0	Fair	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.01	762.2	2.1	—16.6	80	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.35	745.5	30.34	770.6	—28	—33.3	100	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.90	734.0	30.13	765.3	2	—16.7	.....	W	.....	.....	1	2cs	0	W	.....	Inap.	Inap.	Overcast	James Grant.
*Halifax, N. S	29.80	756.9	29.94	760.5	16	— 8.9	84	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.76	755.9	30.16	766.1	5.7	—14.6	98	SW	.....	.....	1	8cs	0	SW	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.82	757.4	30.20	767.1	— 4	—20.0	73	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.84	757.9	29.88	758.9	23.6	— 4.7	89	W	8	3.6	.....	4ck	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.92	760.0	30.14	765.5	— 7	—21.7	96	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	30.12	765.0	— 9	—22.8	71	E	12	5.4	.....	.....	10n	.....	SE	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.34	745.2	30.16	766.1	—16.6	—27.0	10	N	.....	.....	.....	0	8ks	.....	.....	0	0	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Hastings, N. S	29.85	758.2	29.90	759.4	18.1	— 7.7	.....	NW	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.45	748.0	30.17	766.3	4	—15.6	100	W	10	4.5	.....	5ck	2s	SW	W	0	0	Fair	M. Payne.
*Quebec, Quebec	29.70	754.4	30.06	763.5	— 4	—20.0	65	N	.....	.....	5	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. McIntyre.
St. Andrews, N. B	30.02	762.5	30.07	763.8	33	0.6	84	NW	.....	.....	1	0	0	.....	.....	0.04	1.0	Clear	Dr. Gove.
St. John, N. B	29.84	757.9	30.02	762.5	7	—13.9	77	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.25	742.9	30.03	762.8	9	—12.8	87	S	21	9.4	.....	.....	10s	.....	.....	0.133	3.38	Light snow	K. Stewart.
Stayner, Ontario	29.23	742.4	30.10	764.5	— 3	—19.4	79	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.69	728.7	30.17	766.3	— 0.7	—18.2	94	SW	15.0	6.7	.....	8cs	8s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.84	757.9	29.89	759.2	23	— 5.0	69	SW	10	4.5	.....	8k	0	SW	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.14	765.5	2	—16.7	89	N	9	4.0	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	Magnetic Observatory.
Windsor, N. S	29.87	758.7	29.97	761.2	15	— 9.4	82	W	10	4.5	.....	8k	0	.....	.....	0	0	Cloudy	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	32.0	0.0	100	SW	.....	.....	.....	10k?	10s	.....	.....	0.50	12.7	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inch.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim.	WEATHER.	OBSERVER.
Albany, New York	29.90	759.4	30.16	766.1	7	—13.9	89	NW	4	1.8	.....	0	2ks	.....	W	Inap.	Inap.	Fair	
Alpena, Michigan	29.35	745.5	30.08	764.0	—10	—23.3	54	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Atlanta, Georgia	29.02	737.1	30.25	768.3	24	— 4.4	68	NW	10	8.5	.....	8c	2s	W	NW	0	0	Cloudy	
Atlantic City, New Jersey	30.23	767.8	30.24	768.1	20	— 6.7	70	NW	6	2.7	.....	0	5s	.....	NW	0	0	Fair	
Augusta, Georgia	29.98	761.5	30.16	766.1	42	5.6	66	N	7	3.1	.....	5cs	2s	N	NW	0	0	Fair	
Baltimore, Maryland	30.20	767.1	30.25	768.3	24	— 4.4	74	E	4	1.8	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Barnegat, New Jersey	30.19	766.8	30.21	767.3	18	— 7.8	84	N	8	3.6	.....	5c	5s	W	Calm	0	0	Cloudy.	
Bismarck, Dakota	28.82	719.3	30.18	766.6	—13	—25.0	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.79	731.3	30.20	767.1	28	— 2.2	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.18	690.4	30.14	765.5	37	2.8	80	SE	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Boston, Massachusetts	29.97	761.2	30.14	765.5	13	—10.6	62	W	5	2.2	.....	2kcs	0	SW	.....	0	0	Fair	
Brackettville, Texas	29.15	740.4	30.24	768.1	37	2.8	63	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.24	742.7	30.43	772.9	—21	—29.4	100	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.14	765.5	30.21	767.3	54	12.2	74	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.37	746.0	30.14	765.5	5	—15.0	88	S	6	2.7	.....	5cs	5n	S	S	0.03	0.8	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	14	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.84	757.9	30.16	766.1	0	—17.8	70	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	30.14	765.5	30.59	777.0	11	—11.7	60	NW	14	6.3	.....	2c	0	NW	.....	Inap.	Inap.	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.25	642.1	30.06	764.0	57	13.9	59	N	2	0.9	.....	2cs	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	42	5.6	58	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.55	699.8	30.12	765.0	39	3.9	91	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	37	2.8	100	NE	26	11.6	.....	.....	10n	.....	SE	0.66	16.8	Light rain	
Cape Henry, Virginia	30.14	765.5	30.16	766.1	30	— 1.1	78	N	15	6.7	.....	.....	10s	.....	N	0.04	1.0	Cloudy	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765.0	37	2.8	90	NE	32	14.3	.....	.....	10n	.....	NE	0.43	10.9	Light rain	
Cape May, New Jersey	30.20	767.1	30.23	767.8	21	— 6.1	71	N	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Castroville, Texas	29.50	749.3	30.26	768.6	24	— 4.4	43	NW	12	5.4	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.03	762.8	30.09	764.3	53	11.7	80	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	19	— 7.2	85	NW	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Chicago, Illinois	29.56	750.8	30.35	770.9	— 1	—18.3	68	W	12	5.4	.....	0	2s	.....	Calm	0	0	Clear	
Cincinnati, Ohio	29.70	754.4	30.44	773.2	8	—13.3	55	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cleveland, Ohio	29.47	748.5	30.28	769.1	2	—16.7	72	SW	14	6.3	.....	0	0	.....	.....	0.14	3.6	Clear	
Coleman City, Texas	28.53	724.6	30.36	771.1	20	— 6.7	70	N	16	7.2	.....	2c	0	.....	.....	0	0	Fair	
Columbus, Ohio	29.40	746.7	30.33	770.4	7	—13.9	54	W	13	5.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Concho, Texas	28.31	719.1	30.14	765.5	19	— 7.2	69	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.89	759.2	30.41	772.4	24	— 4.4	61	N	10	4.5	.....	5cs	0	NW	.....	0	0	Fair	
Davenport, Iowa	29.73	755.1	30.46	773.7	— 3	—19.4	66	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Deadwood, Dakota	25.36	644.1	.....	.....	22	— 5.6	72	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.18	741.2	30.47	773.9	21	— 6.1	91	N	9	4.0	.....	0	5s	.....	SW	0	0	Fair	
Denison, Texas	29.60	751.8	30.48	774.2	22	— 5.6	74	N	11	4.9	.....	.....	10s	.....	N	0	0	Cloudy	
Denver, Colorado	24.84	630.9	30.06	763.5	29	— 1.7	78	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.50	749.3	30.52	775.2	— 5	—20.6	63	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.44	747.8	30.19	766.8	2	—16.7	72	W	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Dodge City, Kansas	27.73	704.3	30.24	768.1	17	— 8.3	83	Calm	0	0	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Dubuque, Iowa	29.62	752.3	30.44	773.2	—11	—23.9	52	W	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Duluth, Minnesota	29.56	750.8	30.37	771.4	—20	—28.9	64	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.50	749.3	30.28	769.1	41	5.0	57	E	.....	.....	1	1c	0	Calm	.....	0	0	Clear	
Eastport, Maine	29.97	761.2	30.04	763.0	6	—14.4	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	64	17.8	63	N	.....	.....	6	.....	10s	.....	N	0	0	Cloudy	
El Paso, Texas	26.30	668.0	.....	.....	47	8.3	30	NW	10	4.5	.....	5c	0	Calm	.....	0	0	Fair	
Erie, Pennsylvania	29.39	746.5	30.18	766.6	10	—12.2	79	SW	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
Escanaba, Michigan	29.45	748.0	30.20	767.1	— 8	—22.2	58	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28 56	725.4	30.16	766.1	52	11.1	60	NE	3	1.3	.....	8cs	0	W	.....	0	0	Fair	
Fort Buford, Dakota	28.13	714.5	.....	.....	—22	—30.0	60	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.54	648.7	29.60	751.8	48	8.9	49	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	38	3.3	63	W	1	0.4	.....	2c	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.92	760.0	30.52	775.2	18	— 7.8	84	N	8	3.6	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Fort Griffin, Texas	29.12	739.6	30.53	775.4	19	— 7.2	85	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Fort Keogh, Montana	27.57	700.3	.....	.....	— 9	—22.8	34	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	28.03	711.9	30.11	764.8	24	— 4.4	61	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.16	740.7	30.38	771.6	19	— 7.2	85	NE	14	6.3	.....	.....	10n	.....	NE	0	0	Hailing	
Fort Stevenson, Dakota	28.29	718.6	.....	.....	—18	—27.8	100	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.52	724.4	30.17	766.3	37	2.8	90	N	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.20	767.1	30.24	768.1	43	6.1	51	N	18	8.0	.....	2c	0	Calm	.....	0	0	Clear	
Graham, Texas	29.31	744.5	30.47	773.9	19	— 7.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.46	748.3	30.18	766.6	7	—13.9	100	NW	25	11.2	.....	.....	10n	.....	Calm	0.29	7.4	Heavy snow	
Indianapolis, Indiana	29.52	749.8	30.41	772.4	1	—17.2	71	W	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Indianola, Texas	30.24	768.1	30.27	768.8	40	4.4	56	N	29	13.0	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksboro, Texas	29.21	741.9	30.44	773.2	25	— 3.9	63	N	6	2.7	.....	5cs	0	N	.....	0	0	Fair	
Jacksonville, Florida	30.06	763.5	30.09	764.3	60	15.6	88	SW	1	0.4	.....	Haze	0	Calm	.....	0	0	Hazy	
Keokuk, Iowa	29.79	756.7	30.50	774.7	0	—17.8	70	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.10	764.5	30.14	765.5	66	18.3	78	N	13	5.8	.....	2cs	0	Calm	.....	0	0	Clear	
Kittyhawk North Carolina	30.12	765.0	30.15	765.8	32	0.0	89	NE	30	13.4	.....	.....	10n	.....	NE	0.33	8.4	Light snow	
Knoxville, Tennessee	29.34	745.2	30.45	773.4	16	— 8.9	83	N	10	4.5	.....	8ck	2s	W	N	0	0	Cloudy	
La Crosse, Wisconsin	30.56	750 8	30.41	772.4	— 7	—21.7	59	W	2	0.9	.....	0	0	.....	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	53	11.7	80	NW	1	0.4	.....	8c	0	NW	.....	0	0	Cloudy	
Laredo, Texas	29.85	758.2	30.21	767.3	41	5.0	41	NE	9	4.0	.....	.....	10s	.....	NE	0	0	Cloudy	
Leavenworth, Kansas	29.59	751.6	30.54	775.7	9	—12.8	68	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.77	756.1	30.12	765.0	50.5	10.3	89	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.84	757.9	30.48	774.2	6	—14.4	52	W	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.52	749.8	30.25	768.3	26	— 3.3	65	NW	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Madison, Wisconsin	29.24	742.7	30.38	771.6	—10	—23.3	54	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.36	745.7	30.16	766.1	— 5	—20.6	63	W	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Mason, Texas	28.66	728.0	30.58	776.7	25	— 3.9	75	N	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Memphis, Tennessee	30.14	765.5	30.50	774.7	19	— 7.2	69	NE	11	4.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Milwaukee, Wisconsin	29.50	749.3	30.34	770.6	—10	—23.3	78	W	17	7.6	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	30.20	767.1	30.25	768.3	43	6.1	59	N	16	7.2	.....	.....	10s	.....	N	0	0	Cloudy	
Montgomery, Alabama	30.08	764.0	30.33	770.4	32	0.0	69	N	7	3.1	.....	5c	2s	NW	NW	0	0	Fair	
Morgantown, West Virginia	29.10	739.1	30.20	767.1	32	0.0	69	SW	8	3.6	.....	.....	10n	.....	SW	0.05	1.3	Light snow	
Mt. Washington, N. H.	23.22	589.8	29.58	751.3	—12	—24.4	75	NW	25	11.2	.....	0	8ks	.....	NW	0	0	Clear	
Nashville, Tennessee	29.90	759.4	30.50	774.7	12	—11.1	80	N	8	3.6	.....	2cs	2s	.....	N	0	0	Fair	
New Haven, Connecticut	30.04	763.0	30.17	766.3	19	— 7.8	68	NW	8	3.6	.....	2c	2s	Calm	Calm	Inap.	Inap.	Fair	
New London, Connecticut	30.10	764.5	30.15	765.8	18	— 7.2	61	N	6	2.7	.....	1c	0	W	.....	0	0	Clear	
New Orleans, Louisiana	30.14	765.5	30.20	767.1	50	10.0	52	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Newport, Rhode Island	30.09	764.3	30.14	765.5	17	— 8.3	83	NW	15	6.7	.....	5cs	0	Calm	.....	0	0	Fair	
New York, New York	30.02	762.5	30.22	767.6	16	— 8.9	65	NW	14	6.3	.....	1c	2s	Calm	Calm	0	0	Fair	
Norfolk, Virginia	30.13	765.3	30.19	766.8	31	— 0.6	58	NE	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.29	693.2	30.28	769.1	--12	—24.4	75	NW	4	1.8		0	0			0.02	0.5	Clear	
Olympia, Washington Ter.	29.08	761.5	30.02	762.5	39.2	4.0	82	S	7	3.1			10n			0.27	6.9	Light rain	
Omaha, Nebraska	29.25	742.9	30.52	775.2	— 4	—20.0	83	Calm	0	0		0	0			0	0	Clear	
Oswego, New York	29.84	757.9	30.18	766.6	18	— 7.8	68	E	4	1.8		5k	0	NW		0.01	0.3	Fair	
Pembina, Dakota	29.34	745.2	30.34	770.6	—30	—34.4	100	S	3	1.3		0	0			0	0	Clear	
Philadelphia, Pa	30.18	766.6	30.24	768.1	18	— 7.8	68	N	13	5.8		Haze	0	Calm		0	0	Clear	
Phœnix, Arizona	28.89	733.8	30.70	779.8	67	18.9	63	E			1	0	10s		Calm	0	0	Cloudy	
Pike's Peak, Colorado	17.59	446.7	29.80	756.9	2	—16.7	100	NW	28	12.5			10n		NW	0.45	11.4	Light snow	
Pioche, Nevada	24.11	612.4	29.88	758.9	31	— 0.6	89	Calm	0	0		0	0			0.11	2.8	Clear	
Pittsburg, Pennsylvania	29.34	745.2	30.22	767.6	13	—10.6	81	NW	8	3.6		8k	0	NW		0.03	0.8	Cloudy	
Port Huron, Michigan	29.40	746.7	30.14	765.5	2	—16.7	72	SW	8	3.6		0	0			0	0	Clear	
Portland, Maine	30.04	763.0	30.09	764.3	14	—10.0	64	W	4	1.8		0	Haze			0	0	Clear	
Portland, Oregon	30.05	763.3	30.15	765.8	36.5	2.5	95	SE	3	1.3			10n			0.85	21 6	Light rain	
Prescott, Arizona	24.91	632.7	30.27	768.8	49	9.4	51	S	4	1.8		0	0			0	0	Clear	
Pilot Point, Texas	29.21	741.9	30.07	763.8	38	3.3	71	N	10	4.5		6s	6s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.13	765.3	30.15	765.8	60	15.6	82	SW	3	1.3		0	0			0	0	Clear	
Red Bluff, California	29.60	748 4	30.22	767.6	52	11.1	93	SE	6	2.7		0	8ks		Calm	0.02	0.5	Fair	
Rio Grande City, Texas	30.11	764.8	30.34	770.6	47	8.3	100	N	10	4.5			10s		Calm	0	0	Cloudy	
Rochester, New York	29.50	749.3	30.18	766.6	3	—16.1	73	SW	6	2.7		1k	0	W		0.11	2 8	Clear	
Roseburg, Oregon	29.58	751.3	30.16	766.1	44.0	6.7	84	SW	2	0.9		5k	1ks	SW		0.07	1.8	Fair	
Sacramento, California	30.16	766.1	30.25	768.3	49	9.4	93	SW	3	1.3		10ck	0	SW		0.31	7.9	Cloudy	
St. Louis, Missouri	29.87	758.7	30.53	775.4	5	—15.0	75	W	12	5.4		0	0			0	0	Clear	
St. Marks, Florida	30.12	765.0	30.13	765.3	63	11.7	80	N	6	2.7			10s		NW	0	0	Cloudy	
St. Paul, Minnesota	29.41	747.0	30.37	771.4	— 9	—22.8	66	NW	7	3.1		0	0			0	0	Clear	
Salt Lake City, Utah	25.72	653.3	30.05	763.3	35	3.3	72	Calm	0	0			10ks		W	0	0	Cloudy	
San Antonio, Texas	29.57	751.1	30.20	767.1	34	1.1	43	N	12	5.4		0	0			0	0	Clear	
San Diego, California	30.08	764.0	30.15	765.8	51	10.6	100	N	3	1.3		5c	Fog	Calm		0	0	Fair	
Sandusky, Ohio	29.53	750.0	30.28	769.1	7	—13.9	77	W	16	7.2		0	0			Inap.	Inap.	Clear	
Sandy Hook, New Jersey	30.17	766.3	30.20	767.1	16	— 8.9	66	N	24	10.7		5cs	0	N		0	0	Fair	
San Francisco, California	30.31	769.9	30.37	771.4	51	10.6	93	S	2	0.9			Fog		Calm	0.04	1.0	Dense fog	
Santa Fé, New Mexico	28.25	690.5	29.79	756.7	40	4 4	91	SE	2	0.9			10s		Calm	0	0	Cloudy	
Savannah, Georgia	30.02	762.5	30.11	764.8	51	10.6	59	NW	6	2.7			10s		W	0	0	Cloudy	
Shreveport, Louisiana	30.17	766.3	30.41	772.4	29	— 1.7	67	NE	8	3.6		0	2s		Calm	0	0	Fair	
Silver City, New Mexico	24.36	618.7	30.54	775.7	47	8.3	55	W	4	1.8		0	2s		Calm	0	0	Fair	
Smithville, North Carolina	30.10	764.5	30.14	765.5	39	3.9	91	N	12	5.4			10n		N	0.11	2.8	Light rain	
Springfield, Massachusetts	30.02	762.5	30.16	766.1	17	— 8.3	61	NW	4	1.8		2c	0	NW		0	0	Fair	
Stockton, Texas	27.16	689.8	30.16	766.1	26	— 3.3	88	N	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	30.24	768.1	30.30	769.6	18	— 7.8	63	W	11	4.9		5k	0	W		0	0	Fair	
Toledo, Ohio,	29.40	746.7	30.16	766.1	6	—14.4	76	W	16	7.2		0	0			Inap.	Inap.	Clear	
Tucson, Arizona	27.63	701.8	30.18	766.6	48	8.9	49	S	2	0.9		0	0			0	0	Clear	
Tybee Island, Georgia	30.08	764.0	30.11	764.8	51	10.6	65	NW	11	4.9		60k	6ks	W	W	0	0	Cloudy	
Umatilla, Oregon	29.88	758.9	30.41	772.4	24.0	— 4.4	87	Calm	0	0			10s		W	0.13	3.3	Cloudy	
Unalashka, Aleutian Islands					34	1.1	79	N			1		10s		N	0.17	4.3	Cloudy	
Uvalde, Texas	29.38	746.2	30.25	768.3	36	2.2	45	NE	10	4.5		1c	0	N		0	0	Clear	
Vicksburg, Mississippi	30.13	765.3	30.41	772.4	30	— 1.1	78	NE	8	3.6		2cs	0	Calm		0	0	Clear	
Virginia City, Montana	24.27	616.4	29.75	755.6	12	—11.1	61	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.86	758.4	30.23	767.8	52	11.1	100	NW	4	1.8			Fog		Calm	Inap.	Inap.	Dense fog	
Washington, D. C.	30.11	764 8	30.24	768.1	22	— 5.6	58	NE	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Wickenburg, Arizona					48	8.9	65	Calm			0	10cs	0	W		0	0	Cloudy	
Wilmington, N. Carolina	30.04	763.0	30.12	765.0	38	3.3	81	N	10	4.5			10s		Calm	0.35	8.9	Cloudy	
Winnemucca, Nevada	25.73	653.5	30.09	764.3	36	2.2	90	SW	6	2.7		5k	0	SW		0.10	2.5	Fair	
Wood's Holl, Mass	30.08	764.0	30.12	765.0	17	— 8.3	60	NW	22	9.8			8s		SW	0	0	Cloudy	
Yankton, Dakota	29.08	738.6	30.59	770.0	—12	—24.4	74	W	3	1.3		0	0			0	0	Clear	
Yuma, Arizona	29.84	757.9	30.01	762.2	59	15.0	76	Calm	0	0		5c	0	Calm		0	0	Fair	
Sub-Series.																			
Fayetteville, Ark	29.70	729.0	30.26	768.6	11	—11.7	79												J. B. Gordon.
Havana, Cuba, W. I	30.08	764.0	30.13	765.3	69	20.6	75	Calm	0	0		9k	0	NE		0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	29.94	760.5	30.02	762.5	74	23.3		NE	7	3.1						1.97	50.0	Partly clo'dy	F. M Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	78	25.6	91	E			2		8cs			0.61	15.5	Cloudy	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.78	756.4	29.84	757.9	—26.5	—32.5		S	15	6.7			10s		S	0.01	0.3	Snowing	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,037.9 ft., or 316.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.39 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.19	766.8	50	10.0	48.5	.2	100	W	4	1.8	.....	.....	10	.....	NE	0.15	3.8	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	48	8.9	70	NE	15	6.7	.....	.....	.....	.....	.....	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.10	764.5	55	12.8	10	—12.2	79	W	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.12‡	765.0‡	.....	.....	39	3.9	67	Calm	.....	.....	0	.....	3s	.....	W	0	0	.....	.....	Fair.....	
Adams, Panama	30.00	762.0	79	26.1	78	25.6	91	NNW	.....	.....	3	.....	8	.....	N; W	.....	.....	Smooth	.....	Fair.....	
Alaska, N. 24° 23′, W. 109° 56′.....	30.06	763.5	70	21.1	67	19.4	84	WNW	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Alliance, Villafranca, France.....	29.64‡	752.8‡	.....	.....	52	11.1	86	NNE	.....	.....	1	.....	10	.....	Calm	.....	.....	Light	S	Raining	
Ashuelot, Hong-Kong, China.	30 08‡	764.0‡	.....	.....	64	17.8	58	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Canonicus, New Orleans, La.....	30.23	767.8	41	5.0	47	8.3	55	NE	.....	.....	4	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Colorado. New York, N. Y.....	30.10	764.5	17	— 8.3	15	— 9.4	100	NW	15	6.7	.....	.....	5	.....	.....	0	0	.....	.....	Clear.....	
Constitution, N. 45° 49′, W. 16° 03′.....	29.92‡	760.0‡	.....	.....	52	11.1	93	NW	.....	.....	6	.....	10	.....	NNW	.....	.....	Very rough	NW	Squally.....	
Despatch, Constantinople, Turkey	29.82‡	757.4‡	.....	.....	43	6.1	92	N	.....	.....	3	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Essex, S. 40° 56′, W. 56° 32′.....	29.86	758.4	61	16.1	57	13.9	100	S	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.20	767.1	69	20.6	32	0.0	79	NE	7.2	3.2	.....	.....	10	.....	NNW	0.4	10.	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.72‡	754.9‡	.....	.....	52	11.1	100	NW	.....	.....	0-1	.....	10	.....	NW	.....	.....	.....	.....	Raining.....	
Hartford, Montevideo, Uruguay...	29.91	759.7	75	23.9	75	23.9	81	E	.....	.....	3	.....	10	.....	.....	0	0	Smooth	.....	Cloudy	
Lackawana, Panama.....*...	29.78‡	756.4‡	.....	.....	77	25.0	91	WNW	.....	.....	1	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Michigan, Erie, Pa.....†...	30.09	764.3	.....	.....	9	—12.8	78	SW	.....	.....	4	.....	8	.....	W	.....	.....	.....	.....	Cloudy.....	
Monocacy. Shanghai, China.....*..	30.21‡	767.3‡	.....	.....	41	5.0	91	S	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Fair.....	
Monongehela, Yokohama, Japan ....*..	30.12‡	765.0‡	.....	.....	37	2.8	??	NW	.....	.....	0-1	.....	0	.....	.....	0	0	.....	.....	Hazy	
New Hampshire, Port Royal, S. C.....	30.09	764.3	52	11.1	54	12.2	100	NNW	12	5.4	.....	.....	2	.....	WNW	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†....	30.02	762.5	.....	.....	68	20.0	95	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.94	760.5	42	5.6	31	— 0.6	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	24	— 4.4	61	NE	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 24° 50′, W. 101° 20′.....	30.11‡	764.8‡	.....	.....	73	22.8	81	E	12	5.4	.....	.....	5	.....	E	0	0	Smooth	.....	Fair.....	
Powhatan, St. Thomas, W. I	30.16	766.1	78	25.6	78	25.6	65	ESE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Quinnebaug, Villafranca, France.....	29.64‡	752.8‡	.....	.....	52	11.1	79	NNE	.....	.....	2	.....	10	.....	NNE	.....	.....	Smooth	S	Rainy	
Ranger. Kobe, Japan.....*...	30.18‡	766.6‡	.....	.....	62	16.7	66	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 37° 05′ W. 0° 08′.....	29.78‡	756.4‡	.....	.....	60	15.6	76	SW	.....	.....	5	.....	2	.....	W	.....	.....	Mod'ate	SW	Fair.....	
Rio Bravo, Brownsville, Texas.....	30.11	764.8	57	13.9	54	12.2	87	N	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	30.20‡	767.1‡	.....	.....	23	— 5.0	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.12	765.0	58	14.4	18	— 7.8	.....	N	5	2.2	.....	.....	2	.....	N	0	0	.....	.....	Fair.....	
Supply, N. 21° 53′, W. 30° 45′.....	30.29‡	769.4‡	.....	.....	73	22.8	76	ENE	.....	.....	6	.....	5	.....	ENE	.....	.....	Long	ENE	Fair.....	
Trenton. Villafranca, France *...	29.64‡	752.8‡	.....	.....	52	11.1	93	N	.....	.....	1-4	.....	10	.....	Calm	0	0	.....	.....	Rainy	
Tuscarora. N. 17° 10′, W. 100° 42′.....	30.00‡	762.0‡	.....	.....	77	25.0	77	N	.....	.....	1-2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.17‡	766.3‡	.....	.....	14	—10.0	64	NW	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wyoming, Smyrna, Turkey.....	29.86	758.4	66	18.9	60	15.6	94	W	.....	.....	1-2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 17° 21′, W. 101° 30′...†		30.03‡	762.8‡	76	25.6	95	E			2		4		ESE	0	Very small	SE	D. clouds	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Granada San Francisco, Cal...†*		30 43‡	772.9‡	52	11.1	100	Calm			0		Fog			0			Foggy	R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, N. 3° 47′, W. 164° 44′		29.88‡	758.9‡				E			4		0				Long; mod'ate	NW; E	Hazy	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 34° 32′, E. 140° 58′...*		29.99‡	761.7‡	57	13.9	87	N			4		ks		NW		Smooth	NW	Squally	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 46° 58′, W. 38° 56′		30.16	765.8	63.5	17.5		W			4		10		NW	Blank	7	W; WNW	Misty	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 44° 54', W. 45° 02'.....	.....	30.03‡	762.8‡	54	12.2	87	W	.....	.....	6	.....	9	.....	W	Blank	Heavy	W	Cloudy.....	Captain Sargent.
S. S. Ohio, N. 48° 11', W. 26° 25'....†	.....	29.95‡	760.7‡	57	13.9	94	WSW	.....	.....	5	.....	10	.....	W	Blank	Mod'ate	W	Cloudy.....	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. H. Dodge.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—*The originals give the barometer as read off; wind-force by the scale 0 to 12;* amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Randle.
S. S. Switzerland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Jackson.
S. S. Vaderland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Nichols.
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ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
S. S. Hibernian, N 47° 27', W. 43° 59'.....	.....	30.01‡	762.2‡	39	3.9	.....	WSW	.....	.....	3	.....	48	.....	WNW	.....	Swell	SSW	D. clouds.....	Capt. W. Richardson.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. James Jorgensen.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—*The originals give the barometer as read off;* amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 15, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.34	770.5	60.3	15.7	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.04	763.0	61.5	16.4	69	WNW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.78	756.3	62.2	16.8	66	WSW	.....	.....	7	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.71	754.6	63.5	17.5	53	WNW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.73	755.2	63.3	17.4	45	W	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	29.82	757.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.93	760.2	50.0	10.0	62	WNW	.....	.....	6	.....	10	.....	.....	0.205	5.2	Raining	Herbin.
Tebessa	.....	.....	29.87	758.7	54.7	12.6	40	W	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	29.91	759.6	46.2	7.9	94	NW	.....	.....	4	.....	10	.....	.....	0	0	Covered	Brugniaux.
Laghouat	.....	.....	29.93	760.3	54.7	12.6	35	NW	.....	.....	6	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.86	758.5	63.9	17.7	33	NNW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.02	737.0	29.56	750.9	47.8	8.8	68	E	.....	.....	1	.....	9	.....	.....	0.264	6.7	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.01	734.3	29.69	754.2	37.0	2.8	87	E	.....	.....	1	.....	10	.....	.....	0.106	2.7	.....	Dr. Wierzbiski
Eperies	28.84	732.4	29.74	755.5	34.9	1.6	96	S	.....	.....	1	.....	10	.....	.....	0.061	1.55	.....	Julius Mikolik.
Gratz	28.34	719.8	29.61	752.0	40.6	4.8	81	WSW	.....	.....	1	.....	10	.....	.....	0.118	3.0	.....	Andreas Rospini.
Hermannstadt	28.34	719.7	29.78	756.5	43.2	6.2	65	SE	.....	.....	3	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.16	715.3	29.54	750.2	34.2	1.2	89	NE	.....	.....	2	.....	10	.....	.....	0.134	3.4	.....	Prof. C. Wagner.
Lemberg	28.74	730.1	29.76	755.9	35.8	2.1	96	SE	.....	.....	1	.....	10	.....	.....	0.134	3.4	.....	Dr. T. Stanecki.
Pola	29.36	745.7	29.47	748.5	54.7	12.6	83	SE	.....	.....	6	.....	10	.....	.....	0.008	0.2	.....	I.R.Hydrographic Office.
Szathmar	29.34	745.1	29.81	757.2	41.4	5.2	69	E	.....	.....	2	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.37	745.9	29.68	753.7	45.7	7.6	72	S	.....	.....	3	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.41	747.0	29.51	749.6	49.6	9.8	92	E	.....	.....	1	.....	10	.....	.....	2.063	52.4	Raining	P. Busin.
Vienna	28.83	732.3	29.56	750.7	40.6	4.8	89	SSE	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.40	746.8	29.61	752.0	39.4	4.1	80	ENE	.....	.....	1	4	.....	W	.....	0.004	0.10	.....	Royal Observatory
Furnes	29.60	751.7	29.62	752.3	36.3	2.4	92	E	.....	.....	2	.....	10	.....	.....	0.157	4.0	Light fog	M. E. de Cae.
Maeseyck	29.51	749.5	29.63	752.7	37.0	2.8	84	SE	.....	.....	2	0	0	.....	.....	0	0	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m., Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.44	747.8	29.54	750.3	37.0	2.8	.....	SSE	30	13.4	.....	.....	10	.....	.....	0.175	4.45	Raining	W. Boswell.
Ardrossan	29.37	746.0	29.38	746.2	40	4.4	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	Raining	William McNeil.
Armagh, Observatory	.....	.....	29.29	744.0	43.7	6.5	.....	SSE	18	8.0	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.48	748.8	40.0	4.4	.....	ESE	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton, (Sharples)	.....	.....	29.47	748.5	37.8	3.2	.....	SE	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.15	740.4	29.55	750.6	36.5	2.5	.....	SE	.....	.....	3	.....	10	.....	.....	0.25	6.3	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.92	760.0	29.95	760.7	80	26.7	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.59	751.6	37.5	3.1	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	H. Todd. [C.
Cardington	.....	.....	29.58	751.3	38.6	3.7	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.46	748.3	29.59	751.6	39.9	4.4	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	27.85	707.4	29.30	744.2	44.0	6.7	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	Squally	Alexander Watt.
Donaghadee	29.30	744.2	29.34	745.2	42	5.6	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.53	750.0	29.56	750.8	39	3.9	.....	ESE	.....	.....	3	.....	9	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	29.31	744.5	29.54	750.3	47.0	8.3	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.57	700.3	29.59	759.2	75.0	23.9	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.63	752.6	29.86	758.4	87	30.6	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.18	741.2	47	8.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.01	762.2	30.06	763.5	57.9	14.4	.....	W	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.22	742.2	29.43	747.5	39.6	4.3	.....	E	.....	.....	4	.....	.....	.....	.....	.....	.....	Drizzling	D. G. Maclean.
Great Yarmouth	29.63	752.6	29.63	752.6	34	1.1	.....	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	G. T. Watson.
Greenwich, Royal Obs'y	29.40	746.7	29.58	751.3	40.1	4.5	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.36	745.7	29.58	751.3	45.5	7.5	.....	NW	.....	.....	5	.....	8	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S
Helston	29.46	748.3	29.58	751.3	48	8.9	.....	SW	.....	.....	1	.....	10k	.....	.....	.....	.....	Misty	M. P. Moyle.
Holyhead	29.31	744.5	29.36	745.7	44	6.7	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.30	744.2	29.58	751.3	44.6	7.0	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	29.55	750.6	29.59	751.6	40.9	4.9	.....	ENE	9	4.0	.....	.....	10	.....	.....	.....	.....	Gloomy	The Meteorological Of.
Leicester, Museum	29.30	744.2	29.56	750.8	38.0	3.3	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.70	754.4	29.78	756.4	63	17.2	.....	SE	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.33	745.0	29.43	747.5	41	5.0	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.11	764.8	69.5	20.8	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.38	746.2	29.58	751.3	37.5	3.1	.....	SE	.....	.....	2	.....	10	.....	.....	0.031	0.79	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.01	736.8	29.54	750.3	40.0	4.4	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.54	750.3	42	5.6	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.46	748.3	29.54	750.3	47.3	8.5	.....	S	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.35	745.5	29.39	746.5	45	7.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	W. Kennedy.
Saint Ann's Head	29.29	744.0	29.46	748.3	43	6.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.47	748.5	37.6	3.1	.....	SE	30	13.4	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.01	762.2	50.4	10.2	.....	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	29.22	742.2	29.50	749.3	36.9	2.7	.....	SE	.....	.....	1	.....	10	.....	.....	0.23	5.8	Overcast	W. F. Cooper.
Silloth Rectory	29.42	747.2	29.45	748.0	39.5	4.2	90	SE	.....	.....	4	.....	7	.....	.....	0.175	4.45	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	29.12	739.6	29.52	749.8	37.0	2.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Rev. S. J. Perry.
Straitfield Turgiss	29.39	746.5	29.61	752.1	41.8	5.4	.....	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Drizzling	C.H.Griffith, F.M.S.
Thurso	29.38	746.2	29.44	747.8	39	3.9	.....	SSE	.....	.....	6	.....	9	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.53	750.0	49	9.4	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	29.27	743.4	29.30	744 2	48.4	9.1	.....	WSW	37	16.5	.....	.....	10	.....	.....	.....	.....	Raining	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.84	757.9	29.92	760.0	80	26.7	52	S	33	14.8	.....	.....	1	.....	.....	0	0	Fine	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.48	748.8	38.0	3.3	.....	SE	.....	.....	3	.....	10ks	.....	.....	0.01	0.3	Overcast	Andrew Gibb.
Mauritius, Observatory	.....	.....	29.92	759.9	81.4	27.4	69	ESE	27.0	12.1	.....	2	4	.....	E	0.03	0.8	Squally	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	60.7	15.9	62	SE	16	7.2	.....	.....	0	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.21	741.9	42	5.6	.....	SSE	.....	.....	7	.....	10	.....	.....	2.00	50.8	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.67	753.6	37	2.8	.....	SSE	.....	.....	6	3	6	SSE	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.25	666.7	29.97	761.2	67.1	19.5	81	E	.....	.....	2	3c;ck	6s	.....	NE	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.81	757.1	29.86	758.3	22.1	— 5.5	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	.....
Fanöe	29.77	756.2	29.79	756.7	29.7	— 1.3	82	E	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.22	742.3	29.27	743.4	10.8	—11.8	78	NE	.....	.....	5–6	.....	2	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.38	746.3	29.42	747.2	40.3	4.6	86	SE	.....	.....	5–6	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.63	752.6	29.80	756.9	20.8	— 6.2	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.08	738.5	29.63	752.5	45.7	7.6	100	SW	.....	.....	1	.....	10	.....	.....	0.453	11.5	Covered	Collignon, Director.
Amiens, Normal School	29.48	748.9	29.60	751.7	41.0	5.0	90	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.41	747.0	29.49	749.0	53.6	12	65	NNW	.....	.....	1	.....	10	.....	.....	0.266	6.8	Covered	M. Giraud, Director.
Bar-sur-Seine	29.01	736.9	29.58	751.4	42.6	5.9	81	E	.....	.....	1	.....	10	.....	.....	0	0	Covered	C. Saillard, Director.
Beauvais, Normal School	29.32	744.8	29.61	752.1	45.5	7.5	70	ENE	.....	.....	1	.....	10	.....	ENE	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.66	727.9	29.55	750.6	46.4	8	77	NE	.....	.....	2	.....	8	.....	SW	0	0	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.69	728.7	29.59	751.5	40.8	4.9	94	N	.....	.....	1	.....	n	N	N	0.04	1.	.....	M. Marlot, Director.
Bourges, Normal School	29.03	737.3	29.58	751.3	46.8	8.2	93	NW	.....	.....	1	.....	5	NW	NW	0.16	4.	Cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.35	745.4	29.59	751.6	48.9	9.4	89	SW	.....	.....	3	.....	10	.....	SW	0.217	5.50	Foggy	M. de Rermarez, Director
Carcassonne, Normal School	29.16	740.7	29.58	751.2	49.3	9.6	84	W	.....	.....	2	.....	5	W	W	0.35	9.	Cloudy	September, Director.
Caen, Normal School	29.48	748.7	29.55	750.6	48.2	9	89	ESE	.....	.....	1	.....	8	.....	NW	0.472	12.0	Very cloudy	M. Lair, Director.
Chartres, Normal School	29.00	736.5	29.57	751.1	41.5	5.3	92	E	.....	.....	1	.....	10	.....	W	0.157	4.0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.28	743.6	29.60	751.8	45.7	7.6	77	SE	.....	.....	2	.....	10	S	S	0.186	4.7	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	29.18	715.7	29.52	749.7	51.3	10.7	65	N	.....	.....	1	.....	10	.....	N	0.575	14.6	Covered	Alluard, Director.
Commercy, Normal School	28.72	729.6	29.62	752.4	38.8	3.8	80	E	.....	.....	1	.....	1ck	.....	E	0.020	0.5	Clear	Dr. Coulet, Director.
Commune de Grèasque*	28.34	719.9	29.48	748.9	45.1	7.3	89	NW	.....	.....	1	.....	10	.....	NW	1.091	27.7	Covered	M. Kina, Director.
Grenoble, Normal School	28.70	731.2	29.56	750.8	44.2	6.8	77	ENE	.....	.....	1	.....	8k	.....	.....	0.063	1.6	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.30	744.2	29.61	752.0	46.0	7.8	94	WNW	.....	.....	1	.....	5	.....	W	0.134	3.4	Cloudy	Mouillot, Director
Le Mans, Normal School	29.47	748.6	29.69	754.2	49.3	9.6	74	W	.....	.....	1	.....	8	.....	WNW	0.295	7.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.63	727.3	29.56	750.8	45.1	7.3	89	SSW	.....	.....	1	.....	8	.....	N	0.08	1.	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	29.55	750.6	29.65	753.1	48.9	9.4	89	SW	.....	.....	2	.....	.....	S	SW	0.465	11.8	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.52	724.4	29.58	751.4	39.2	4.0	83	SSE	.....	.....	1	.....	kn	.....	NNW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.25	743.0	29.45	748.1	56.5	13.6	53	W	.....	.....	1	.....	5	.....	SE	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.46	722.9	29.52	749.8	50.7	10.4	70	N	.....	.....	1	.....	n	S	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24 68	626.9	.....	.....	33.4	0.8	100	NW	.....	.....	2	.....	.....	.....	.....	0.343	8.7	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.62	752.4	29.65	753.2	51.8	11.0	93	NW	.....	.....	1	.....	10	N	N	0.31	8.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.50	749.2	29.58	751.3	44.6	7.0	84	ENE	.....	.....	1	.....	10	.....	.....	0.079	2.0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.55	750.6	29.58	751.4	47.1	8.4	85	W	.....	.....	2	.....	8	WSW	WSW	0	0	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.43	747.4	29.59	751.6	44.6	7.0	72	E	.....	.....	1	.....	10	.....	N	0	0	Covered	E. Renou, Director.
Tarbes, Normal School	28.45	722.7	29.54	750.2	46.4	8	59	SW	.....	.....	6	.....	10	.....	.....	0.31	8.	Raining	T. Huguet, Director.
Versailles Observatory	29.09	738.8	29.58	751.3	44.2	6.8	.....	SE	.....	.....	1	.....	10	.....	.....	0	0	Foggy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.74	730.0	29.46	748.2	46.2	7.9	94	NW	.....	.....	3	.....	10	.....	SW	0.118	3.0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.16	4.	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.55	750.6	46.8	8.2	83	NNE	.....	.....	2	.....	4	.....	.....	0.024	0.6	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.35	618.6	29.67	753.6	34.7	1.5	69	N	.....	.....	2	.....	8	.....	NW	0.020	0.5	.....	M. Cave.
Nice	.....	.....	29.46	748.2	51.4	10.8	80	S	.....	.....	1	.....	10	.....	.....	1.055	26.8	Rainy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.31	744.4	.....	.....	44.2	6.8	77	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	29.43	747.6	29.54	750.3	54.3	12.4	54	NE	18.6	8.3	.....	.....	2	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.24	560.5	.....	.....	24.8	—4.0	.....	NW	.....	.....	1	.....	10	.....	.....	0.457	11.6	Snowing	Gen'l de Nansouty.
Toulouse, Observatory	28.93	734.7	.....	.....	48.2	9.0	86	W	.....	.....	3	.....	9	.....	.....	0.370	9.4	.....	M. Mercadier Juller.
Tours	29.637	752.67	29.831	757.67	48.9	9.4	84	SSW	.....	.....	1	.....	7	.....	NW	0.262	6.4	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.17	766.2	30.19	766.8	43.2	6.2	69	SSE	6.5	2.9	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.73	729.8	29.56	760.9	38.5	3.6	69	NE			5		9	NE		0	0		Prof. Dr. Hoh.
Berlin	29.58	751.3	29.76	755.8	34.0	1.1	81	E			3		10			0	0		Prof. Arndt.
Breslau	29.17	740.9	29.69	754.2	34.5	1.4	88	E			2		10			0.008	0.20		Royal University Obs'y
Carlsruhe	29.50	749.3	29.94	760.4	43 2	6.2	66	NE			2		9	NE		0	0		Albert Senz.
Cassel	29.06	738.2	29.67	753.5	34.9	1.6	84	ENE			2		8	E		0	0		Dr. H. Möhl.
Crefeld	29.47	748.5	29.63	752.6	38.8	3.8	68	E			2		4			0	0		Director Lose.
Emden					33.8	1.0	98	ENE			2		10			0	0		Prof. Prestel.
Frankfort on the Main	29.25	742.9	29.62	752.3	42.4	5.8		NNE			1		5			0	0		Physical Society.
Friedrichshafen	28.11	714.0	29.48	748.9	35.6	2.0	84	NE			3		10			0	0		M. Wilhelm.
Hamburg	29.71	754.5	29.78	756.4	33.3	0.7	73	ENE			4		7c;ks			0	0	Fair	Captain F. Hegemann.
Kiel	29.78	756.5	29.80	756 9	31.1	— 0.5	81	ENE			3		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.80	757.0	29.89	759.2	31.1	— 0.6	69	E			3		2			0	0		Prof. E. Luther.
Köslin			29.80	756.9	30.6	— 0.8		E			2		1			0	0		H. Müller.
Leipsic, Observatory	29.26	743.2	29.70	754.3	32.5	0.3	90	NNE			2		10					Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.84	758.0	29.89	759.2	33.6	0.9	79	SW			2		9s						Skalweit.
Neufahrwasser	29.87	758.6	29.88	759.0	30.7	— 0.7	71	NE			1		0			0	0		A. Lothes.
Posen	29.51	749.5	29.81	757.2	32.5	0.3	91	NE			5		10			0.413	10.5	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.02	737.2	29.58	751.3	41.9	5.5	71	NE			1		7	N		0.020	0.51		Imp. University Observatory.
Stuttgart	29.60	726.4	29.50	749.4	41.4	5.2	63	N			1		9	N		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.04	712.2	29.67	751.1	37.9	3.3	76	NE	4	2			9ck		NE	0	0	Foggy	Dr. Van Bebber
Wustrow, Naval School	29.80	757.0	29.83	757.6	31 5	— 0.3	89	ENE			2		8s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.8	29.99	761.8	760.1	15.6		SW			2.0							Dusty	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.5	29.96	760.8	75.3	24.1	20	SW	8	3.6			0			0	0	Blue sky	
Deesa	29.41	747.0	29.80	759.2	74.2	23.4	19	NNW					0			0	0	Blue sky	
Bombay	29.86	758.4	29.90	759.4	74.1	23.4	56	NW	20	8.9			0			0	0	Blue sky	
*Poona																			
Lahore	29.10	739.3	29.88	758.9	60.4	15.8	65	N	4.2	1.9			8			0	0	Blue sky	
Belgaum	27.33	694.2	29.85	758.3	79.1	26.2	49	W	7	3.1			3		W	0	0	D. clouds	
Roorkee	28.94	735.0	29.88	759.0	55.8	13.2	36	SE	3	1.5			10			0.13	3.3	Gloomy	
Agra	29.33	745.0	29.91	759.7	70.7	21.5	53	E											
Nagpur	26.78	730.9	29.82	757.3	80.9	27.2	53	Calm	5.9	2.6			9		NE	0	0	Gloomy	
Lucknow	29.53	750.1	29.92	760.0	64.4	18.0	63	Calm	2.2	1.0			10			0	0	Overcast	
Allahabad	29.59	751.5	29.91	759.6	64.1	17.8	71	ESE	2.7	1.2			10		SW	0.06	1.5	Overcast	
Patna	29.80	756.9	29.99	761.7	59.4	15.2	95	E	0.6	0.3			10	E	E	0.28	7.1	Drizzling	
Hazaribagh	27.89	708.4	29.96	761.1	63.8	17.7	78	N	6.4	2.9			10		N	0.34	8.6	Thunder-storm	
Cuttack	29.76	756.5	29.86	758.6	80.5	26.9	56	S	3.7	1.6			0			0	0	Blue sky	
Calcutta (Alipore)	29.86	758.4	29.88	759.0	76.6	24.8	74	WSW	5.0	2.2			0			0	0	Blue sky	
Goalpara	29.55	750.5	29.95	760.6	70.9	21.6	53	SE	1.5	0.7			10	W		0	0	Overcast	
Chittagong	29.86	758.3	29.95	760.7	73.3	22.9	54	NW	6.8	3.0			0			0	0	Misty	
Sibsagar	29.63	725.7	29.98	761.5	67.0	19.4	68	ESE	0.9	0.4			8			0	0	D. clouds	
Jubbulpore	28.42	721.8	29.79	756.6	77.3	25.2	23	N	4.0	1.8			8	E		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,861 ft., or 411.8 m. The velocity given is the average rate of wind since last observation. *The elevation at Poona should have been 2,000.4 ft., or 609.7 m. instead of 1,992.4 ft., or 606.3 m., as heretofore given.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.15	740.3	29.56	750.8	45.1	7.3	88	NE	3.8	1.7	.....	.....	10	.....	.....	1.252	31.8	.....	Prof. Giovanni Clodig.
Padua	29.41	746.9	29.52	749.7	46.0	7.8	94	NE	19.2	8.6	.....	.....	10	NE	.....	0.858	21.8	.....	Prof. Dott. Lorenzoni
Milan	28.97	735.8	29.49	749.1	45.5	7.5	90	NNE	.....	.....	2	.....	10	E	.....	0.437	11.1	.....	Prof. Schiaparelli.
Moncalieri	28.63	727.1	29.54	750.3	44.4	6.9	81	NNW	1.8	0.8	.....	.....	10	NNE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.59	700.7	29.50	749.3	35.1	1.7	96	WSW	.....	.....	4	.....	10	.....	.....	0.524	13.3	.....	Prof. D. C. Bruno.
Genoa	29.26	743.3	29.46	748 2	44.2	6.8	79	N	9.8	4.4	.....	.....	10	S	.....	2 587	65.7	.....	Prof. G. M. Garibaldi.
Florence	29.17	740.9	29.48	747.5	51.8	11.0	70	SE	.....	.....	2	.....	10	.....	.....	0.316	8.0	.....	Cav. F Meucci
Leghorn	29.29	744.0	29.38	746.2	52.5	11.4	54	S	9.8	4.4	.....	.....	10	WSW	.....	0.441	11.2	.....	Prof. P. Monte.
Pesaro	29.40	746.7	29.45	747.9	54.3	12.4	75	SE	8.7	3.9	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.32	744.8	29.50	749.2	55.4	13.0	68	SW	23.0	10.3	.....	.....	10	.....	.....	0.394	10.0	.....	Prof. P. S. Ferrari.
Lecce	29.52	749.8	29.77	756.2	58.5	14.7	78	SSW	43.4	19.4	.....	.....	10	S	.....	0.016	0.4	.....	Prof. C. De Giorgi.
Cagliari	29.33	745.0	29.52	749.9	59.0	15.0	62	SW	0.7	0.3	.....	.....	10	W	.....	0.161	4.1	.....	Prof. A. Pacinotti.
Cosenza	28.88	732.2	29.71	754.7	60.4	15.8	77	ESE	11.2	5.0	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.45	748.1	29.71	754.5	62.4	16.9	47	WSW	12.5	5.6	.....	.....	10	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.65	753.1	29.72	755.0	62.6	17.0	56	SE	7.4	3.3	.....	.....	9	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.10	739.1	29.65	753.2	54.7	12.6	77	WSW	6.3	2.8	.....	.....	10	.....	.....	0.378	9.6	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.12	765.0	30.14	765.5	37.3	2.9	55	N	3.6	1.6	.....	.....	0	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.95	760.7	30.16	766.0	40.4	4.7	90	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.05	763.3	30.12	765.0	33.2	0.7	97	N	7.3	3.3	.....	.....	10n	.....	.....	0.385	9.78	Snowing	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. L. Perer.
Leon	24.47	621.6	30.13	765.5	52.0	11.1	69	SW	.....	.....	2	0	0	.....	.....	0	0	.....	Prof. M. Leal
Mexico, Central Obs'y	23.11	587.1	30.33	770.3	42.8	6.0	63	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	45.9	7.7	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.07	763.8	30.09	764.2	66.2	19	93	SSW	.....	.....	1	0	0	.....	.....	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.26	616.2	30.32	770.1	44.0	6.7	24	NE	.....	.....	.....	0	0	.....	.....	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	25.12	765.1	30.15	765.8	72.5	22.5	91	Calm	0	0	.....	.....	10nk	.....	N	0.167	4.00	Rainy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.43	595.1	30.18	766.6	39.2	4.0	67	N	0.4	0.2	.....	.....	.....	.....	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.48	722.0	30.09	764.2	72.5	22.5	68	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.03	762.6	30.16	766.0	66.2	19	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Misty	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.6 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 552 m., or 1745.4 ft. The instrumental error of the barometers is not known, except for Mexico, which needs the correction of —0.88 mm., previous to December 1, 1878. The data are published as given, except the conversions which have been revised.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.63	752.6	29.63	752.6	40.6	4.8	.....	ESE	.....	.....	.....	.....	.....	.....	.....	0.150	3.8	.....	
Groningen	29.67	753.5	29.72	754.9	33.6	0.0	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.68	753.8	29.68	753.8	33.6	0.9	.....	E	.....	.....	8	.....	.....	.....	.....	.....	.....	.....	
Hellevoetsluis	29.64	752.8	29.64	752.8	37.8	3.2	79	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.63	752.5	29.67	753.7	36.5	2.5	83	E	.....	.....	8	.....	2	.....	.....	0	0	Slightly cl'dy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.80	757.0	29.66	753.4	33.4	0.8	71	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.66	754.3	29.70	754.3	33.4	0.8	85	NNW	27	12	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.65	753.1	29.81	757.1	17.2	— 8.2	100	Calm	0	0	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.60	751.5	29.64	752.9	31.3	— 0.4	78	NE	34	15	.....	.....	4	.....	.....	0.007	1.7	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.00	762.1	30.20	767.0	57.2	14.0	82	WNW	10.5	4.7	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.6	29.69	754.2	51.1	10.6	90	WNW	6.9	3.1	.....	.....	9	WNW	.....	0.067	1.7	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.33	770.3	30.41	772.5	65.3	18.5	50	SW	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.86	756.9	30.19	766.7	57.2	14.0	75	NW	18.6	8.3	.....	.....	9	.....	.....	0.091	2.3	.....	The Staff.
Ponta Delgada, (Azores)	30.54	775.7	30.57	776.5	60.8	16.0	66	NW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.91	759.7	83.3	28.5	.....	W	.....	.....	2	.....	2	.....	W	2	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, Porto de San Jose, de Bissao, N. 11° 51', W. 15° 37'	.....	.....	29.93	760.2	78.8	26.0	.....	ESE	.....	.....	1	.....	0	.....	.....	1	ESE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.77	756.1	83.7	28.7	.....	NNW	.....	.....	3	.....	4	.....	.....	1	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.12	765.0	64.4	18.0	.....	SE	.....	.....	2	.....	7	.....	SE	0	.....	D. clouds	J. M. T. Guimarães, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.36	745.8	29.50	757.0	31.3	— 0.4	94	E	9	4	.....	.....	10n	.....	.....	.....	.....	Light snow.	Astronomical Obs.
Wilna	29.48	748.8	29.92	760.0	26.4	— 3.1	88	S	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	29.47	748.5	29.72	754.9	31.5	— 0.3	87	SW	9	4	.....	.....	9n;ks	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	29.63	752.5	29.64	752.9	15.3	— 9.3	78	SSW	9	4	.....	.....	4cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.24	742.8	29.91	759.6	30.0	— 1.1	86	W	4	2	.....	.....	10ks;s; n]	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.95	760.8	30.02	762.6	35.2	1.8	78	NW	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.02	762.4	30.04	762.9	36.7	2.6	85	NW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.28	743.7	29.86	758.5	20.5	— 6.4	82	W	7	3	.....	.....	10s	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Lugan	29.53	750.0	29.74	755.4	36.0	2.2	89	NW	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.62	752.4	29.64	752.9	— 9.8	—23.2	77	ESE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.49	723.7	29.90	759.4	56.7	13.7	47	NW	22	10	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.81	757.1	29.72	755.0	53.2	11.8	55	NW	7	3	.....	.....	10ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.24	742.6	29.73	755.1	27.9	— 2.3	80	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.45	748.0	29.74	755.4	13.5	—10.3	74	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.86	733.0	29.90	759.5	9.5	—12.5	82	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Meteorological Obs.
Nukuss	29.65	753.2	29.89	759.1	61.5	16.4	13	ESE	13	6	.....	.....	1c	.....	.....	.....	.....	.....	
Tashkend	28.53	724.6	30.26	768.5	51.1	10.6	50	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.97	761.2	30.55	775.9	— 9.9	—23.3	62	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.42	772.6	30.77	781.5	—28.5	—33 6	74	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.99	761.8	30.13	765.4	30.6	— 0.8	77	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,166.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.45	748.0	29.56	750.7	56.1	13.4	53	WNW	3.0	1.33	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.75	755.6	29.81	757.1	52.5	11.4	82	NW	8.4	3.78	.....	.....	10	.....	.....	0.657	16.7	Light rain..	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.08	687.7	.....	.....	44.6	7.0	83	W	11.4	5.10	.....	.....	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.63	701.8	.....	.....	50.2	10.1	57	NW	30.6	13.67	.....	0	2	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.65	753.2	29.80	757.0	64.4	18.0	51	WNW	8.1	3.64	.....	2	3	SSW	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.09	738.9	30.00	762.0	52.2	11.2	84	NW	9.8	4.4	.....	.....	10	.....	.....	0.417	10.6	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.09	764.3	30.16	766.0	61.0	16.1	88	Calm	0	0	.....	0	1k	.....	E	0	0	Clear.	Benito Vines, S. J.
Manilla, Philippine Islands	29.95	760.8	30.01	762.2	79.9	26.8	80	ESE	5.1	2.3	.....	.....	.....	.....	.....	0	0	Clear..	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	764.0	30.18	766.6	55.6	13.1	72	WNW	20.6	9.2	.....	0	10	.....	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	74.1	23.4	97	SE	0	0	.....	4ks	2k	SE	SE	0.138	3.50	Cloudy.....	Leonardo de Tejeda, Ch'f. Eng r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.59	751.6	29.63	752.6	0.0	—17.8	.....	NE	.....	.....	2	.....	0	.....	.....	0.079	2.0	.....	
Umea	29.54	750.2	29.59	751.5	5.7	—14.6	100	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Hernosand	29.43	747.5	29.48	748.8	27.0	— 2.8	66	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Stockholm	29.49	749.1	29.67	753.6	26.2	— 3.2	89	W	.....	.....	4	.....	8	.....	.....	0	0	.....	
Wisby	29.69	754.2	29.75	755.7	29.5	— 1.4	76	WNW	.....	.....	5	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.55	750.6	29.63	752.5	23.4	— 4.8	78	SW	11.6	5.2	.....	.....	10	WNW	.....	0.007	0.17	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.12	714.1	29.59	751.5	38.7	3.7	85	NE	.....	.....	3	.....	10	.....	.....	0.366	9.3	Covered.....	The Observatory.
Zurich	27.91	709.0	29.05	753.1	36.7	2.6	88	N	.....	.....	2	.....	9	.....	.....	0	0	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —12.2 mm.; Thermometer, 0 ent.; Relative Humidity, +14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.14	765.5	50.2	10.1	66	SE	3	1.5	.....	.....	9	.....	SW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	29.84	757.9	59.4	15.2	.....	S	.....	.....	3	.....	10	.....	.....	0	0	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.98	761.5	30.09	764.8	70.5	21.4	73	S	.....	.....	1	.....	7ks	.....	SW	0.21	5.3	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	15	— 9.4	89	Calm	0		.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.98	761.5	30.33	770.4	—10	—23.3	.....	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear.....	W. R. Bigg.
*Chatham, N B	30.08	764 0	30.08	764.0	— 4	—20.0	96	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	30.00	762.0	30.04	763.0	8	—13.3	100	W	9	4.0	.....	0	5ks	.....	W	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.06	763.5	30.29	769.4	—23.0	—30.6	100	S	.....	.....	1	.....	10s	.....	.....	0.02	0.5	Overcast....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	H. A. Johnson.
Esquimault, B. C	29.90	759.4	29.95	760.7	34.1	1.2	100	Calm	.....	.....	.....	0	0	.....	.....	0.01	0.3	Clear.....	W. H. Bevis.
*Father Point, Quebec	30.06	763.5	30.08	764.0	— 3	—19.4	83	W	25	11.2	.....	.....	10s	.....	W	0.63	0.8	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.14	765.5	30.21	767.3	— 2.8	—19.3	90	NW	5.0	2.2	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.16	740.7	30.08	764.0	0	—17.8	94	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Granton, Ontario	29.08	738.6	30.33	770.4	— 2	—18.9	.....	SW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast....	James Grant.
*Halifax, N. S	29.96	761.0	30.10	764.5	13	—10.6	89	W	18	8.0	.....	0	2ks	.....	NW	0	0	Fair.....	F. Allison, M. A.
Hamilton, Ontario	29.97	761.2	30.39	771.9	4.1	—15.5	98	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	E. Weedon.
*Kingston, Ontario	29 95	760.7	30.33	770.4	— 6	—21.1	73	W	1	0.4	.....	0	0	.....	.....	0.06	1.5	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.99	761.7	30.03	762.8	15.7	— 9.1	93	W	10	4.5	.....	7k	0	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	J. R. Nason.
*Montreal, Quebec	30.08	764.0	30.31	769.9	— 3	—19.4	93	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.43	747.5	30.21	767.3	— 5	—20.6	82	E	7	3.1	.....	.....	10n	.....	E	Inap.	Inap.	Light snow..	Rev. R. Mosley.
Peterboro, Ontario	29.48	748.8	30.33	770.4	— 1.7	—18.7	64	S	.....	.....	.....	0	0	.....	.....	0.20	5.1	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	H. Morgan.
Port Hastings, N. S	29.90	761.7	30.04	763.0	10.4	—12.0	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.65	753.1	30.38	771.6	4	—15.6	90	SW	12	5.4	.....	.....	10ks	.....	SW	Inap.	Inap.	Cloudy.....	M. Payne.
*Quebec, Quebec	29.89	759.2	30.27	768 8	—10	—23.3	76	W	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	W. H. McIntyre.
St. Andrews, N. B	29.46	748.6	29.50	749.3	38	3.3	90	W	.....	.....	1	.....	10ks	.....	.....	0.58	14.7	Cloudy.....	Dr. Gove.
St. John, N. B	30.05	763 3	30.24	768.1	1	—17.2	78	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.44	747.8	30.24	768.1	6	—14.4	92	SW	28	10.3	.....	.....	10s	.....	.....	0.38	9.7	Light snow..	K. Stewart.
Stayner, Ontario	29.42	747.2	30.30	769.6	0	—17.8	82	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair..	R. J. Cole.
Stratford, Ontario	28.90	734.0	30.31	769.9	— 7.6	—22.0	92	SW	8.5	1.6	.....	3cs	3s	Calm	SW	0	0	Clear?.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.97	761.2	30.01	762.2	18	— 7.8	75	W	8	3.6	.....	2k	2ks	W	W	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.94	760.5	30.38	771.6	— 2	—18.9	90	W	7	3.1	.....	0	0	.....	.....	0.02	0.5	Clear.....	Magnetic Observatory.
Windsor, N. S	30.04	763.0	30.14	765.5	11	—11.7	90	W	20	8.9	.....	3k	0	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	23.0	— 5.0	86	SW	.....	.....	.....	10c?	10s	.....	.....	0.10	2.5	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	30.12	765.0	30.38	771.6	8	—13.3	55	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Alpena, Michigan	29.46	748.3	30.19	766.8	— 5	—20.6	63	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.10	739.1	30.35	770.9	22	— 5.6	58	NW	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Atlantic City, New Jersey	30.47	773.9	30.49	771 9	10	—12.2	58	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.16	766.1	30.35	770.9	39	3.9	64	E	12	5.4	.....	.....	10s	.....	E	0	0	Cloudy	
Baltimore, Maryland	30.47	773.9	30.52	775.2	15	— 9.4	48	N	4	1.8	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Clear	
Barnegat, New Jersey	30.43	772.9	30.46	773.7	11	—11.7	60	NW	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Bismarck, Dakota	28.18	715.8	30.04	763.0	— 7	—21.7	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.70	729.0	30.11	764.8	27	— 2.8	76	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.20	690.9	30.16	766.1	31	— 0.6	100	SE	3	1.3	.....	.....	Fog	.....	Calm	0.17	4.3	Foggy	
Boston, Massachusetts	30.18	766.6	30.36	771.1	9	—12.6	47	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Brackettville, Texas	29.00	736.6	30.07	763.8	36	2.2	71	NE	7	3.1	.....	5ck	0	SE	.....	0	0	Fair	
Breckenridge, Minnesota	29.01	736.8	30.15	765.8	—11	—23.9	100	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	30.10	764.5	30.17	766.3	52	11.1	73	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.60	751.8	30.39	771.9	0	—17.8	85	SW	8	3.6	.....	0	2s	.....	SW	Inap.	Inap.	Clear	
Burkes, Arizona	.....	.....	.....	.....	48	8 9	Inap.	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.01	762.2	30.34	770.6	1	—17.2	59	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	30.05	763.3	30.49	774.4	19	— 7.2	69	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.15	638.8	29.95	760.7	53	11.7	42	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	41	5.0	74	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.48	698.0	30.05	763.3	36	2.2	80	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.34	770.6	30.35	770.9	36	2.2	71	NE	16	7.2	.....	5cs	5s	SW	NE	Inap.	Inap.	Cloudy	
Cape Henry, Virginia	30.39	771.9	30.41	772.4	25	— 3.9	62	N	18	8.0	.....	.....	10s	.....	N	0	0	Cloudy	
Cape Lookout, N. Carolina	30.33	770.4	30.35	770.9	35	1.7	53	N	18	8.0	.....	.....	10ks	.....	NW	0.01	0.3	Cloudy	
Cape May, New Jersey	30.44	773.2	30.48	774.2	12	—11.1	61	NW	28	12.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.39	746.5	30.14	765.6	35	1.7	61	E	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.26	768.6	30.32	770.1	42	5.6	58	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Cheyenne, Wyoming	28.87	606.3	29.61	757.2	25	— 3.9	75	W	4	1.8	.....	0	8s	.....	W	0	0	Cloudy	
Chicago, Illinois	29.51	749.5	30.26	768.6	18	— 7.8	84	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.78	756.4	30.51	774.9	11	—11.7	70	SE	6	2.7	.....	0	Sm'e	.....	SE	0	0	Clear	
Cleveland, Ohio	29.63	752.6	30.46	773 7	0	—17.8	70	S	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Coleman City, Texas	28.31	719.1	30.06	763.5	33	0.6	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.54	750.3	30.48	774.2	8	—13.3	55	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corpus, Texas	28.16	715.3	29.95	760.7	23	— 5.0	60	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.79	756.7	30.30	769.6	28	— 2.2	66	NE	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.53	750.0	30.23	767.8	16	— 8.9	83	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Deadwood, Dakota	25.23	640.8	.....	.....	16	— 8.9	66	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	29.04	737.6	30.29	769.4	24	— 4.4	83	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.49	749.0	30.34	770.6	28	— 2.2	77	E	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Denver, Colorado	24.64	625.8	29.86	758.4	33	0.6	89	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.18	741.2	30.13	765.3	17	— 8.3	83	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.60	751.8	30.36	771.1	3	—16.1	78	SW	9	4.0	.....	5ck	5s	SW	SW	0.04	1.0	Cloudy	
Dodge City, Kansas	27.41	696.2	29.81	757.2	26	— 3.3	88	S	8	3.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dubuque, Iowa	29.44	747.8	30.21	767.3	7	—13.9	77	W	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Duluth, Minnesota	29.30	744.2	30.05	763.3	2	—16.7	86	SW	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Eagle Pass, Texas	29.37	746.0	30.16	766.1	36	2.2	71	NE	.....	.....	1	1c	0	W	.....	0	0	Clear	
Eastport, Maine	30.16	766.1	30.24	768.1	3	—16.1	73	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	49	9.4	78	N	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	26.27	667.2	.....	.....	49	9.4	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.62	752.3	30.43	772.9	2	—16.7	100	S	8	3.6	.....	5ck	0	W	.....	0.01	0.3	Fair	
Escanaba, Michigan	29.41	747.0	30.15	765.8	— 4	—20.0	65	SW	5	2.2	.....	0	5s	.....	SW	0	0	Fair	
Florence, Arizona	28.46	722.9	30.06	763.5	46	7.8	64	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Craig, New Mexico	25.38	644.6	29.44	747.8	40	4.4	56	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.13	638.3	30.09	764.3	40	4.4	48	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.74	755 4	30.33	770.4	21	— 6.1	71	E	3	1.3	.....	5cs	0	N	.....	0	0	Fair	
Fort Griffin, Texas	28.94	735.1	30.32	770 1	22	— 5.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.43	696.7	.....	.....	— 2	—18.9	67	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.82	706.6	29.83	757.7	34	1.1	52	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.97	735.8	30.17	766.3	28	— 5.6	86	SE	5	2.2	.....	0	8s	.....	W	0.01	0.3	Cloudy	
Fort Stevenson, Dakota	25.19	716.0	.....	.....	—14	—25.6	100	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.37	720.6	30.00	762.0	38	3.3	45	N	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Galveston, Texas	30.20	767.1	30.25	768.3	43	6.1	67	NE	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Graham, Texas	29.10	739.1	30.25	768.3	21	— 6.1	86	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.54	750.3	30.24	768.1	18	— 7.8	84	W	24	10.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Indianapolis, Indiana	29.55	750.6	30.43	772.9	7	—13.9	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.20	767.1	30.23	767.8	46	7.8	69	NE	17	7.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Jacksboro, Texas	29.04	737.6	30.25	768.3	25	— 3.9	87	E	.....	.....	.....	2ck	0	W	.....	0	0	Fair	
Jacksonville, Florida	30.21	767.3	30.24	768.1	49	9.4	78	N	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Keokuk, Iowa	29.53	750.0	30.19	766.8	23	— 5.0	73	S	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	30.12	765.0	30.16	766.1	65	18.3	84	N	5	2.2	.....	1k	0	N	.....	0	0	Clear	
Kittyhawk North Carolina	30.34	770.6	30.37	771.4	31	— 0.6	79	NE	35	15.6	.....	2ck	2s	W	NE	0.03	0.8	Fair	
Knoxville, Tennessee	29.37	746.0	30.49	774.4	14	—10.0	82	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.35	745.5	30.18	766.6	— 1	—18.3	68	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.02	660.9	30.17	766.3	40	4.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.73	755.1	30 08	764.0	50	10.0	58	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.29	744.0	30.19	766.8	22	— 5.6	58	S	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Los Angeles, California	29.74	755.4	30.08	764.0	51.0	10.6	93	E	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.85	758 2	30.48	774.2	12	—11.1	61	SE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.75	755 6	30.49	774.4	22	— 5.6	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.10	739.1	30.19	766.8	6	—14.4	76	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.26	743.2	30.04	763.0	0	—17.8	70	W	13	5.8	.....	.....	10s	.....	W	0	0	Cloudy	
Mason, Texas	28.51	724.1	30.37	771.4	33	0.6	70	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Memphis, Tennessee	30.11	764.8	30.46	773.7	18	— 7.8	68	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Milwaukee, Wisconsin	29.42	747.2	30.22	767.6	11	—11.7	80	SW	5	2.2	.....	0	5s	.....	W	0	0	Fair	
Mobile, Alabama	30.28	769.1	30.32	770.1	34	1.1	61	N	16	7.2	.....	5k	2s	N	N	0	0	Fair	
Montgomery, Alabama	30.11	764.8	30.37	771.4	30	— 1.1	48	N	5	2.2	.....	1c	0	NW	.....	0	0	Clear	
Morgantown, West Virginia	29.32	744.7	30.48	774.2	16	— 8.9	49	Calm	0	0	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Mt. Washington, N. H.	23.30	591.8	29.66	753.4	—14	—25.6	100	NW	30	13 4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.89	759.2	30.48	774.2	15	— 9.4	82	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	30.28	769.1	30.40	772.1	13	—10.6	81	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.33	770.4	30.38	771.6	15	— 9.4	57	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.22	767.6	30.28	769.1	43	6.1	51	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Newport, Rhode Island	30.33	770.4	30.39	771.9	12.5	—10.8	80	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.27	768.8	30.47	773.9	9	—12.8	59	NW	12	5.4	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Norfolk, Virginia	30.40	772.1	30.46	773.7	23	— 5.0	60	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.02	686.3	29.79	756.7	11	—11.7	80	Calm	0	0	.....	10cs	Haze	Calm	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.88	758.9	29.92	760.0	37.2	2.9	90	S	2	0.9	.....	.....	10n	.....	.....	0.14	3.6	Light rain	
Omaha, Nebraska	28.92	734.6	30.10	764.5	17	— 8.3	83	S	2	0.9	.....	0	2s	.....	Calm	0	0	Clear.	
Oswego, New York	30.02	762.5	30.37	771.4	17	— 8.3	67	SW	16	7.2	.....	5k	0	W	.....	0.20	5.1	Fair	
Pembina, Dakota	29.15	740.4	30.10	764.5	—12	—24.4	100	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pa	30.43	772.9	30.48	774.2	11	—11.7	60	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Phœnix, Arizona	28.78	731.0	30.60	777.2	52	11.1	73	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.50	444.5	29.70	754.4	2	—16.7	100	NW	22	9.8	.....	.....	10n	.....	NW	0.05	1.3	Heavy snow	
Ploche, Nevada	24.60	609.6	29.76	755.9	35	1.7	61	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.58	751.3	30.50	774.7	5	—15.0	75	SW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Port Huron, Michigan	29.57	751.1	30.31	769.9	4	—15.6	74	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.24	768.1	30.29	769.4	9	—12.8	67	W	8	3.6	.....	0	Haze	.....	.....	0	0	Clear	
Portland, Oregon	29.96	761.0	30.06	763.5	40.8	4.9	91	SE	8	1.3	.....	.....	10n	.....	Calm	0.40	10.2	Light rain	
Prescott, Arizona	24.69	627.1	30.05	763.3	55	1.7	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.15	740.4	30.02	762.5	25	— 3.9	75	N	15	6.7	.....	5k	5s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.14	765.5	30.16	766.1	62	16.7	83	E	5	2.2	.....	2ck	2s	NW	Calm	0	0	Fair	
Red Bluff, California	29.83	757.7	30.20	767.1	44	6.7	84	S	4	1.8	.....	0	1s	.....	Calm	0.01	0.3	Clear	
Rio Grande City, Texas	30.11	764.8	30.22	767.6	52	11.1	54	N	7	3.1	.....	.....	10s	.....	Calm	0	0	Clear	
Rochester, New York	29.70	754.4	30.39	771.9	3	—16.1	73	W	7	3.1	.....	0	0	.....	.....	0	0	Cloudy	
Roseburg, Oregon	29.52	749.8	30.10	764.5	39.0	3.9	96	SW	4	1.8	.....	.....	10n	.....	.....	0.01	0.3	Clear	
Sacramento, California	30.17	766.3	30.25	768.3	48	8.9	93	Calm	0	0	.....	.....	10s	.....	.....	0.31	7.9	Light rain	
St. Louis, Missouri	29.75	755.6	30.38	771.6	16	— 8.9	66	SE	5	2.2	.....	2c	0	Calm	W	0	0	Cloudy	
St. Marks, Florida	30.23	767.8	30.25	768.3	43	6.1	43	N	9	4.0	.....	.....	10s	.....	Calm	0	0	Fair	
St. Paul, Minnesota	29.17	740.9	30.10	764.5	— 3	—19.4	66	Calm	0	0	.....	0	0	.....	.....	0	0	Cloudy	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	35	1.7	80	W	4	1.8	.....	.....	10n	.....	Calm	0	0	Clear	
San Antonio, Texas	29.50	749.3	30.12	765.0	34	1.1	70	NE	3	1.3	.....	5cs	0	Calm	.....	0.14	3.6	Light snow	
San Diego, California	30.03	762.8	30.11	764.8	52.5	11.4	100	NW	4	1.8	.....	.....	Fog	.....	.....	0	0	Fair	
Sandusky, Ohio	29.68	753.9	30.43	772.9	5	—15.0	75	SW	10	4.5	.....	0	0	.....	.....	0	0	Foggy	
Sandy Hook, New Jersey	30.41	772.4	30.45	773.4	12	—11.1	61	NW	17	7.6	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.21	767.3	30.28	769.1	50.3	10.2	90	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.13	587.5	29.67	753.6	34	1.1	79	N	7	3.1	.....	.....	2s;fg	.....	Calm	0	0	Fair	
Savannah, Georgia	30.20	767.1	30.30	769.6	46	7.6	69	NE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Shreveport, Louisiana	30.15	765.8	30.39	771.9	27	— 2.8	64	E	6	2.7	.....	0	2s	.....	W	0	0	Cloudy	
Silver City, New Mexico	24.20	614.7	30.34	770.6	47	8.3	77	SW	6	2.7	.....	0	0	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.34	770.6	30.38	771.6	34	1.1	61	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	30.25	768.3	30.40	772.1	15	— 9.4	14	W	6	2.7	.....	10cs	0	W	.....	0	0	Cloudy	
Stockton, Texas	26.94	684.3	29.94	760.5	31	— 0.6	79	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.28	769.1	30.34	770.6	11	—11.7	40	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.62	752.3	30.38	771.6	7	—13.9	77	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.63	701.8	30.18	766.6	47	8.3	55	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.27	768.8	30.30	769.6	45	7.2	76	NE	16	7.2	.....	2k	5ks	W	W	0	0	Cloudy	
Umatilla, Oregon	29.74	755.4	30.27	768.8	20.0	— 6.7	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	25	— 3.9	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.26	743.2	30.13	765.3	35	1.7	63	NE	3	1.3	.....	2cs	0	Calm	.....	0	0	Fair	
Vicksburg, Mississippi	30.14	765.5	30.42	772.6	26	— 3.3	88	NE	.....	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.12	612.6	29.60	751.8	16	— 8.9	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.86	758.4	30.24	768.1	44	6.7	92	NW	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Washington, D. C.	30.38	771.6	30.51	774.9	12	—11.1	61	NE	5	2.2	.....	0	Fog	.....	Calm	Inap.	Inap.	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	44	6.7	84	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.29	769.4	30.37	771.4	32	0.0	40	NE	10	4.5	.....	8ck	0	NE	.....	0	0	Fair	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	31	— 0.6	79	SW	10	4.5	.....	0	5ks	.....	SW	0.01	0.3	Fair	
Wood's Holl, Mass	30.31	769.9	30.35	770.9	14	—10.0	63	NW	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	28.80	731.5	30.26	768.6	— 3	—19.4	67	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.79	756.7	29.96	761.0	57	13.9	63	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28 65	727.7	30.18	766.6	18	— 7.8	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.10	764.5	30.15	765.8	65	18.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	76	24.4	.....	N	5	2.2	.....	0	0	.....	.....	0	0	Fair	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	79	26.1	91	NE	.....	.....	2	.....	8cs	.....	.....	0.900	22.86	Cloudy	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.03	762.8	30.08	764.0	—31.0	—35.0	.....	NW	30	13.4	.....	.....	10s	.....	NW	0.03	0.8	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; *Camp Grant*, 4,833 (?) ft., or 1,473.2 (?) m.; *Camp Verde*, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,488 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,208 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,000 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 6.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.83 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	30.22	767.6	50	10.0	49	9.4	93	SSW	18	8.0	.....	.....	5	.....	SE	0.05	1.3	.....	.....	Fair.....	
Navy Yard, Pensacola, Fla.	.....	.....	.....	.....	40	4.4	66	NE	10	4.5	.....	.....	10	.....	NW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.30	769.6	52	11.1	8	—13.3	57	W	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Naval Hospital, Yokohama, Japan.....*	30.13‡	765.3‡	.....	.....	34.5	1.4	95	N	.....	.....	4	.....	10n	.....	N	0.27	6.9	.....	.....	Rain & sleet.	
Adams. Panama	29.98	761.5	79	26.1	78	25.6	91	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	Fair.....	
Alaska. Pichilinque Bay, Mexico	30.06	763.5	69	20.6	64	17.8	83	SSE	.....	.....	3	.....	0	.....	.....	0	0	Smooth	.....	Blue sky	
Alliance, Villafranca, France.....	29.41‡	747.0‡	.....	.....	53	11.7	67	NW	.....	.....	1	.....	10	.....	N;W	.....	.....	Light	S	Threatening	
Ashuelot, Hong-Kong, China. ....*..	30.09‡	764.3‡	.....	.....	61	16 1	71	E	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Fair	
Canonicus, New Orleans, La.....	30.12	765.0	37	2.8	41	5.0	59	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	30.36	771.1	13	—10.6	11	—11.7	100	NW	14	6.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Constitution, N. 44° 04′, W. 15° 39′.....	30.11‡	764.8‡	.....	.....	54	12.2	??	W	.....	.....	6	.....	9	.....	WNW	.....	.....	Long	W	Misty.....	
Despatch, Constantinople, Turkey	30.10‡	764.5‡	.....	.....	50	10.0	72	SE	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Clear.	
Essex, S. 39° 51′, W. 56° 19′.....	29.85	758.2	62	16.7	59	15.0	100	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.52	775.2	48	8.9	30	— 1.1	68	NE	20	8.9	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Gettysburg, Genoa, Italy.....	29.64‡	752.8‡	.....	.....	42	5.6	??	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Hartford, Montevideo, Uruguay...	29.88	758.9	78	25.6	79	26.1	73	NE	.....	.....	4	.....	8	.....	NE	0	0	Smooth	.....	Cloudy.....	
Lackawana, Panama.....*...	29.76‡	755.9‡	.....	.....	77	25.0	91	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.....†	30.18	766.6	.....	.....	2	—16.7	109	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
Monocacy. Shanghai, China.....*	30.21‡	767.3‡	.....	.....	44	6.7	68	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongehela, Yokohama, Japan ....*..	30.08‡	764.0‡	.....	.....	30	— 1.1	??	N	.....	.....	3-4	.....	10	.....	N	.....	.....	.....	.....	Rain & snow	
New Hampshire, Port Royal, S. C.....	30.29	769.4	46	7.8	45	7.2	76	N	15	6.7	.....	.....	8	.....	WNW	0	0	.....	.....	Cloudy.	
Onward, Callao, Peru.....†...	30.00	762.0	.....	.....	69	20.6	90	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.03	762.8	29	— 1.7	28	— 2.2	88	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Fair.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	12	—11.1	80	NE	.....	.....	1	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Pensacola, S. 26° 40′, W. 102° 10′.....	30.15‡	765.8‡	.....	.....	78	22.8	90	E	12	5.4	.....	.....	10	.....	E	0.1	3.	Long	SSW	Cloudy.....	
Powhatan, N 18° 10′, W. 64° 55′.....	30.12	765.0	78	25.6	78	25.6	86	ESE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.39‡	746.5‡	.....	.....	52	11.1	66	W	.....	.....	2	.....	10	.....	W	.....	.....	Smooth	.....	Cloudy.....	
Ranger. Kobe, Japan.....*...	30.07‡	763.8‡	.....	.....	49	9.4	78	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 39° 07′ E 4° 03′.....	29.59‡	751.6‡	.....	.....	58	14.4	70	WNW	.....	.....	6	.....	8	.....	.....	.....	.....	Rough	SSW	Fair	
Rio Bravo, Brownsville, Texas.....	30.11	764.8	59	15.0	53	11.7	80	N	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	30.47‡	773.9‡	.....	.....	15	— 9.4	.....	N	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa.....	30.32	770.1	38	3.3	11	—11.7	.....	W	9	4.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, N. 21° 52′, W. 34° 18′.....	30.26‡	768.6‡	.....	.....	74	23.3	81	ENE	.....	.....	6	.....	2	.....	ENE	.....	.....	Long	NE	Clear.....	
Trenton Villafranca, France.....	29.36‡	745.7‡	.....	.....	53	11.7	80	NW	.....	.....	2	.....	10	.....	S;E	0	0	.....	.....	Cloudy.....	
Tuscarora, Acapulco, Mexico.....	29.96‡	761.0‡	.....	.....	76	24.4	73	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Wabash, Boston, Mass.....	30.37‡	771.4‡	.....	.....	9	—12.8	78	W	22	9.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Wyoming, Smyrna, Turkey.....	30.16	766.1	68	20.0	60	15.6	82	SSE	.....	.....	0-1	.....	8	.....	S	.....	.....	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Granada																			R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, N. 8° 20', W. 162° 44'		29.90‡	759.4‡				ENE		7					ENE		Long; rough	NW; ENE	Squally	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kenneoy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Yokohama, Japan	*	30.03‡	762.8‡	43?	6.1?	??	NW			5		ks		NW		Smooth	N	Misty.	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 45° 58', W. 38° 04'		30.06‡	763.3‡	62.4	16.9		W			6		8		NW	Blank	6	WNW	Misty.	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 43° 12', W. 49° 31'		29.87‡	758.7‡	47	8.3	100	WSW			6		9		WSW	Blank	Mod'ate	W	Cloudy	Captain Sargent.
S. S. Ohio, N. 49° 28', W. 19° 03'	†	29.65‡	753.1‡	56	13.3		WNW			3		10		WNW	Blank	Mod'ate	W	Cloudy	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland	Capt. Randle.
S. S. Switzerland	Capt. Jackson.
S. S. Vaderland	Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 43° 30', W. 49° 03'		29.87‡	758.7‡	33	0.6		N			4		10s		N	3 hours	Heavy	S	Misty	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller	Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 16, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
9:6 P. M. LISBON mean time.
9:28 P. M. MADRID mean time.
9:43 P. M. GREENWICH mean time.
9:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.34	770.6	60.6	15.9		NE			3		8			0	0	Very cloudy	
Nemours			30.09	764.2	63.1	17.3	91	WNW			3		8			0	0	Very cloudy	Kesxuche.
Algiers			29.80	756.9	62.6	17.0	64	W			7		0			0	0	Clear	Tourillere.
La Calle			29.72	755.0	61.2	16.2	74	WNW			5		5			0.079	2.0	Cloudy	Foufrede.
Tunis			29.79	756.6	59.0	15.0	60	NW			6		5			0.016	0.4	Cloudy	Jaoques.
Sfax			29.84	758.0															Gau.
Saida			29.98	761.4	50.4	10.2	60	W			5		10			0.524	13.3	Covered	Herbin.
Tebessa			29.90	759.4	50.4	10.2	33	W			4		8			0	0	Very cloudy	Watrin.
Geriville			29.96	761.0	46.8	8.2	94	NW			4		10			0.008	0.2	Covered	Brugnlaux.
Laghouat			29.99	761.8	56.1	13.4	48	NW			4		5			0	0	Cloudy	Bertrand.
Biskra			29.89	759.2	66.0	18.9	35	NW			3		5			0	0	Cloudy	Chanvaux.

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.82	732.0	29.37	746.0	42.6	5.9	96	NW			2		8			0.138	3.5		Prof. Ivan Stoair.
Cracow, I. R. Observatory	28.63	727.3	29.40	746.8	40.6	4.8	87	E			1		10			0.283	7.2		Dr. Wierzbiski
Eperies	28.55	725.2	29.45	747.9	37.4	3.0	97	Calm			0		Fog			0.300	7.78	Foggy	Julius Mikolik.
Gratz	28.17	715.6	29.44	747.8	37.0	2.8	89	WSW			2		10			0.138	3.5		Andreas Rospini.
Hermannstadt	28.10	713.8	29.53	750.1	46.6	8.1	72	SSE			4		10			0	0		Prof. A. Gottschling.
Kremsmünster	28.00	711.3	29.36	745.6	39.0	3.9	88	ENE			3		7			0	0		Prof. C. Wagner.
Lemberg	28.45	722.5	29.45	748.0	37.0	2.8	96	SE			1		10			0.150	3.8		Dr. T. Stanecki.
Pola	29.30	744.3	29.41	747.1	50.4	10.2	79	W			1		9			0.197	5.0		I.R.Hydrographic Office.
Szathmar	29.00	736.5	29.46	748.3	47.5	8.6	84	E			2		9			0.331	8.4		Julius Csics, S. J.
Szegedin	29.12	739.7	29.40	746.7	54.3	12.4	65	S			3		4			0.142	3.60		Karl Stancel.
Trieste	29.30	744.2	29.40	746.8	48.0	8.9	93	SW			1		10			0.528	13.4	Raining	P. Busin.
Vienna	28.69	728.7	29.41	747.0	42.4	5.8	76	NE			1		9			0	0		I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	28.84	732.5	29.04	737.6	41.2	5.1	98	SSE			2		10		SSW	0.341	8.65	Light rain	Royal Observatory
Furnes	28.93	734.8	28.95	735.4	39.7	4.3	92	WNW			2		10			0.339	8.6		M. E. de Cae
Maeseyck	29.09	738.8	29.21	742.0	39.6	4.2	92	SE			2		10			0	0		M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.10	739.1	29.20	741.7	35.4	1.9	.....	SE	32	14.3	.....	.....	10	.....	.....	0.695	17.66	Raining	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William McNeil.
Armagh, Observatory	.....	.....	29.14	740.1	42.7	5.9	.....	WSW	12	5.4	.....	.....	0	.....	.....	Blank	Blank	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.20	741.7	38.2	3.4	.....	WNW	20	8.9	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton, (Sharples)	.....	.....	29.10	739.1	36.2	2.3	.....	W	18	8.0	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.92	760.0	29.94	760.5	81	27.2	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds....	Pvt. J. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.08	738.6	40.0	4.4	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	H. Todd. [O.
Cardington	.....	.....	29.12	739.6	42.4	5.8	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	28.87	733.3	29.00	736.6	39.1	3.9	.....	SE	.....	.....	1	.....	9	.....	.....	Blank	Blank	Overcast.....	Corpl. Daly, R. E.
Dartmoor	27.78	705.6	29.26	743.2	38.0	3.3	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	Squally.....	Alexander Watt.
Donaghadee	29.07	738.4	29.11	739.4	41	5.0	.....	WNW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.01	736.8	29.04	737.6	41	5.0	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	J. Costello.
Falmouth, Observatory	29.10	739.1	29.33	745.0	45.9	7.7	.....	WNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.37	695.2	29.68	753.9	82.4	28.0	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	Pvt. S Salmon, A.H. C.
Free Town, (Sierra Leone)	29.63	752.6	29.86	758.4	87	30.6	.....	S	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.12	739.6	46.5	8.1	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.08	764.0	30.13	765.3	60.8	16.0	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.90	734.0	29.10	739.1	34.9	1.6	.....	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	Snowing.....	D. G. Maclean.
Great Yarmouth	29.06	738.1	29.06	738.1	37	2.8	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	28.92	734.6	29.09	738.9	41.8	5.4	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.09	738.9	29.32	744.7	45.5	7.5	.....	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	Lightning...	Dr. S. E. Hoskins, F.R.S
Helston	29.28	743.7	29.40	746.7	49	9.4	.....	NW	.....	.....	2	.....	3ck	.....	.....	0.43	10.9	Fine.....	M. P. Moyle.
Holyhead	29.10	739.1	29.16	740.7	43	6.1	.....	W	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.04	737.6	29.33	745.0	46.2	7.9	.....	W	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew, Observatory	29.08	738.6	29.12	739.6	43.0	6.1	.....	WNW	20	8.9	.....	.....	7	.....	.....	.....	.....	Misty.....	The Meteorological Of.
Leicester, Museum	28.85	732.8	29.10	739.1	41.1	5.1	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.66	753.4	29.74	755.4	63	17.2	.....	SW	.....	.....	1	.....	4k	.....	.....	.....	.....	Blue sky.....	Sergt. H. J. Beckett, A. H. C.
Nairn	29.03	737.3	29.12	739.6	39	3.9	.....	SE	.....	.....	3	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.20	767.1	72.5	22.5	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	28.91	734.3	29.10	739.1	41.8	5.4	.....	NW	.....	.....	3	.....	10d	.....	NW	0.169	4.06	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.59	726.2	29.12	739.6	39.1	3.9	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.12	739.6	40	4.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy.....	H. E. Bellamy.
Plymouth	29.21	741.9	29.28	743.7	45.0	7.2	.....	NW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	29.23	742.4	29.27	743.4	45	7.2	.....	WNW	.....	.....	4	.....	2	.....	.....	.....	.....	Clear	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys.	.....	.....	29.27	743.4	38.8	3.8	.....	ESE	30	13.4	.....	.....	10	.....	.....	.....	.....	Snowing.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.82	757.4	54.8	12.7	.....	S	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds....	W. H. Lyne.
Sheffield	28.83	732.3	29.11	739.4	39.1	3.9	.....	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.06	738.1	29.09	738.9	37.1	2.8	93	Calm	.....	.....	0	.....	10	.....	.....	0.040	1.02	Overcast.....	Francis Redford, A. M.
Stonyhurst, Observatory	28.72	729.5	29.12	739.6	35.7	2.1	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stratfield Turgiss	28.93	734.8	29.15	740.4	43.3	6.3	.....	NW	.....	.....	2-3	.....	9	.....	.....	.....	.....	Squally.....	C.H.Griffith, F.M.S.
Thurso	29.15	740.4	29.22	742.2	35	1.7	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....	John Trotter.
Truro, Royal Institution	.....	.....	29.31	744.5	50	10.0	.....	W	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	29.21	741.9	29.24	742.7	46.6	8.1	.....	SW	10	4.5	.....	.....	10	.....	.....	Blank	Blank	D. clouds....	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.97	761.2	30.00	762.0	72.7	22.6	56	SSE	10	4.5	.....	0	1	.....	.....	0	0	Fine.....	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	30.11	764.8	56.0	13 3	83	NE	.....	.....	2	.....	4k	.....	.....	0.02	0.5	Star-light....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.13	739.9	35.6	2.0	.....	E	.....	.....	2	.....	10n	S	.....	0.56	14.2	Rain & sleet	Andrew Gibb.
Mauritius, Observatory	29.70	754.4	29.89	759.2	82.0	27.8	66	E	19.0	8.5	.....	0	7	.....	E	0.21	5.3	Squally.....	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	62.0	16.7	65	SE	14	6.3	.....	.....	5	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides	.....	.....	28.03	734.8	43	6.1	.....	SSE	.....	.....	6	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.43	747.5	34	1.1	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
H. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	67.1	19.5	83	SE	.....	.....	1	1c	7s	.....	NE	0	0	.....	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.50	749.4	29.55	750.6	27.6	— 2.5	92	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Fanöe	29.41	746.9	29.43	747.4	29.3	— 1.5	86	E	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.26	743.2	29.30	744.3	10.4	—12.0	70	NE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.26	743.3	29.30	744.2	38.1	3.4	68	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.54	750.3	29.71	754.6	17.2	— 8.2	88	NE	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.82	732.0	29.53	750.0	43.2	6.2	94	N	.....	.....	3	.....	8	W	W	0.217	5.5	Very cloudy	Collignon, Director.
Amiens, Normal School	29.02	737.0	29.13	739.8	41.4	5.2	85	WNW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.43	747.6	29.51	749.6	47.1	8.4	89	SSW	.....	.....	1	.....	5	.....	W	0.071	1.8	Cloudy	M. Giraud, Director.
Bar-sur-Seine	28.72	729.6	29.29	744.0	45.1	7.3	53	NW	.....	.....	1	.....	8kn	.....	NW	0.186	4.7	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	28.92	734.6	29.20	741.8	43.3	6.3	79	W	.....	.....	2	.....	8	.....	WNW	0.138	3.50	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.53	724.6	29.43	747.4	44.1	6.7	75	E	.....	.....	1	.....	10	.....	SW	0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.68	727.2	29.53	750.0	40.3	4.6	87	W	.....	.....	2	.....	n	W	W	0	0	.....	M. Marlot, Director.
Bourges, Normal School	28.82	731.9	29.37	745.9	40.4	8	77	W	.....	.....	6	.....	8	W	W	0.138	3.5	Very cloudy	A. Waquet, Director.
Brest, Naval Observatory	29.15	740.5	29.40	746.7	48.2	9.0	76	NW	.....	.....	3	.....	7	.....	NW	0.226	5.75	.....	M.de Rermaree, Director
Carcassonne, Normal School	29.17	740.8	29.58	751.3	51.4	10.8	82	W	.....	.....	1	.....	5	W	W	0.217	5.5	Cloudy	September, Director.
Caen, Normal School	29.20	741.6	29.27	743.5	48.0	8.9	65	NW	.....	.....	6	.....	5	.....	NE	0	0	Cloudy	M. Lair, Director.
Chartres, Normal School	28.68	728.5	29.25	743.0	41.0	5	90	NW	.....	.....	3	.....	3	.....	SE	0.28	7.	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	28.91	734.3	29.22	742.3	44.6	7.0	69	W	.....	.....	4	.....	10	W	W	0.130	3.3	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.05	712.4	29.41	746.9	45.3	7.4	53	W	.....	.....	3	.....	5	.....	WSW	0.055	1.4	.....	Alluard, Director.
Commercy, Normal School	28.35	720.2	29.23	742.5	41.4	5.2	91	W	.....	.....	3	.....	10k	.....	W	0.16	4.	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.41	721.6	29.55	750.6	42.3	5.7	94	NW	.....	.....	2	.....	10	.....	NW	0.16	4.	Covered	M. Kina, Director.
Grenoble, Normal School	28.72	729.5	29.50	749.2	42.1	5.6	91	SSW	.....	.....	1	.....	10n	.....	.....	0.31	8.	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.33	745.0	29.55	750.6	49.1	9.5	66	WNW	.....	.....	4	.....	5	.....	W	0.260	6.6	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.06	738.2	29.37	746.0	44.6	7	71	WNW	.....	.....	4	.....	5	.....	WNW	0.384	9.75	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.49	723.7	29.41	747.1	42.1	5.6	97	S	.....	.....	1	.....	8	.....	W	0	0	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	29.36	745.8	29.46	748.3	53.2	11.8	86	WNW	.....	.....	4	.....	.....	.....	W	0.087	2.2	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.19	715.9	29.28	742.5	38.8	3.8	90	NNE	.....	.....	1	.....	kn	.....	NW	.....	.....	Raining	M. Barbier, Director.
Nismes, Normal School	29.28	743.8	29.48	748.9	56.5	13.6	52	SW	.....	.....	3	.....	2	.....	E	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.38	720.9	29.44	747.9	46.4	8	75	N	.....	.....	1	.....	n	S	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.52	622.9	.....	.....	27.9	— 2.3	10.0	W	.....	.....	7	.....	8	.....	.....	0.122	3.1	Very cloudy	Alluard, Director.
Rochefort, Naval Obs'y	29.51	749.6	29.54	750.4	51.1	10.6	77	W	.....	.....	2	.....	10	W	W	0.20	5.	Raining	Lt. Decante, Director.
Rouen, Normal School	29.13	739.9	29.21	742.0	43.9	6.6	71	W	.....	.....	4	.....	5	W	W	0.299	7.6	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.32	744.8	29.36	745.6	47.1	8.4	72	W	.....	.....	6	.....	1	WNW	WNW	0.161	4.10	Clear	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.09	738.8	29.25	743.0	42.1	5.6	75	W	.....	.....	3	.....	10	W	W	0.173	4.4	.....	E. Renou, Director.
Tarbes, Normal School	28.49	723.7	29.57	751.0	50.0	10	62	W	.....	.....	6	.....	10	.....	.....	0 51	13.	Raining	T. Huguet, Director.
Versailles Observatory	28.70	728.9	29.40	746.8	51.8	11	93	SE	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.74	730.1	29.24	742.6	43.2	6.2	.....	NW	.....	.....	4	.....	5	.....	.....	0.168	4.15	Fair	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.6	29.97	761.2	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.60	5.2	.....	L'Abbé Marchesi.
Lyons, Observatory	.....	.....	29.41	747.1	46.7	7.6	66	NNW	.....	.....	2	.....	10	.....	.....	0.094	2.4	Raining	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.40	619.7	29.71	754.7	34.2	1.2	68	SSW	.....	.....	4	.....	7	.....	WSW	0	0	.....	M. Cave.
Nice	.....	.....	29.44	747.7	63.2	11.8	67	SW	.....	.....	8	.....	10	.....	.....	0.205	5.2	Slightly cov	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	28.97	735.7	.....	.....	42.6	5.9	73	WNW	.....	.....	4	.....	6	.....	W	0.130	3.3	Sprinkling	Marié Davy, Director.
Perpignan	29.48	748.7	29.58	751.4	54.3	12.4	65	NW	28.0	12.5	.....	.....	5	.....	NW	0.039	1.0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.05	560.0	.....	.....	20.3	— 6.5	.....	NW	.....	.....	8	.....	10	.....	.....	1.201	30.5	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.92	734.5	29.03	752.6	48.7	9.3	89	N	.....	.....	4	.....	10	.....	.....	1.496	38.0	.....	M. Mercadier Juller.
Tours	29.20	741.7	29.40	746.7	47.8	8.8	80	WNW	.....	.....	4	.....	5	.....	NW	0.252	6.4	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.11	764.7	30.13	765.3	43.9	6.6	85	S	8.3	3.7	.....	.....	0	.....	.....	0	0	Clear	Marc Deschevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.51	724.1	29.29	744.0	39.4	4.1	76	SE			6		3	SE		0	0		Prof. Dr. Hoh.
Berlin	29.24	742.7	29.42	747.2	33.8	1.0	90	E			1		10			0.024	0.6		Prof. Arndt.
Breslau	28.89	733.8	29.41	747.0	37.2	2.9	92	SE			1		10			0	0		Royal University Obs'y
Carlsruhe	28.80	731.6	29.22	742.1	46.6	8.1	66	SW			3		10	SW		0.256	6.5	Raining	Albert Senx.
Cassel	28.63	727.2	29.22	742.3	38.8	3.8	76	E			4		6	E		0.037	0.96		Dr. H. Möhl.
Crefeld	28.96	735.6	29.12	739.6	41.0	5.0	85	SE			3		10			0.04	1.	Raining	Director Lose.
Emden					35.8	2.1	80	E			2		10			0	0		Prof. Prestel.
Frankfort on the Main	28.88	733.6	29.24	742.8	47.5	8.6		SE			1		10			0	0		Physical Society.
Friedrichshafen	27.87	707.9	29.22	742.2	44.6	7.0	78	NW			1		5	W		0.051	1.3	Raining	M. Wilhelm.
Hamburg	29.31	744.5	29.38	746.3	31.8	— 0.1	89	ESE			4		10			0.008	0.2	Fog & snow	Captain F. Hegemann.
Kiel	29.39	746.2	29.39	746.6	32.0	0.0	91	E			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.51	749.5	29.60	751.7	29.3	— 1.5	78	NE			2		6			0	0		Prof. E. Luther.
Köslin			29.47	748.4	33.1	0.6		E			2		4			0	0		H. Müller.
Leipsic, Observatory	28.96	735.5	29.39	746.4	34.0	1.1	87	SE			1		10	SSW		0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.58	751.4	29.63	752.6	30.6	— 0.8	66	ENE			1		7s						Skalweit.
Neufahrwasser	29.54	750.4	29.56	750.8	30.2	— 1.0	78	NE			3		10			0	0		A. Lothes.
Posen	29.46	748.3	29.76	755.9	32.0	0.0	98	NE			6		10			0.028	0.7	Raining	Dr. Magener.
Strassburg (in Alsace)	28.69	728.8	29.24	742.7	46.9	8.3	65	SSW			5		10	SSW				Snowing	Imp. University Observatory.
Stuttgart	28.30	718.7	29.22	742.1	48.6	9.2	52	S			2		8	W		0.028	0.7	Raining	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.83	706.9	29.34	745.2	40.8	4.9	67	SSE	9	4			4ck		WNW	0	0		Dr. Van Bebber.
Wustrow, Naval School	29.43	747.6	29.46	748.2	31.5	— 0.3	96	E			2		10			0.039	1.0	Snowing	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.43	747.5	29.82	757.4	63.1	17.3		S			7.0							Dusty	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.98	761.6	30.04	762.9	75.5	24.2	36	WNW	17	7.6			1			0	0	D clouds	
Deesa	29.46	748.2	29.94	760.4	76.2	24.6	18	NNE	10.3	4.6			0			0	0	Blue sky	
Bombay	29.84	758.0	29.88	758.9	76.3	24.6	51	NW	23	10.3			0			0	0	Blue sky	
Lahore	29.27	743.4	30.03	762.8	66.6	19.2	52	E	2.5	1.1			0			0.01	0.3	Blue sky	
Belgaum	27.32	693.8	29.83	757.8	80.2	26.8	44	WSW	8	3.6			1			0	0	D. clouds	
Roorkee	29.10	739.1	30.04	763.0	61.8	16.6	56	SE	5	2.2						0.60	15.2	Thunder-storm	
Agra	29.42	747.3	30.00	762.1	68.7	20.4	61	E					8		E	0	0		
Nagpur	28.83	732.2	29.87	758.8	78.6	25.9	28	Calm	2.1	0.9						0	0	Blue sky	
Lucknow	29.56	750.9	29.95	760.7	65.4	18.6	76	N	2.8	1.2						0.02	0.5	Blue sky	
Allahabad	29.62	752.3	29.94	760.3	69.8	21.0	63	Calm	2.8	1.2			0			0	0	Blue sky	
Patna	29.75	755.6	29.94	760.4	69.5	20.8	85	E	2.0	0.9			10	E	E	0.12	3.0	Overcast	
Hazaribagh	27.85	707.4	29.92	759.9	64.8	18.2	87	ESE	12.5	5.6			6	SW	E	0.16	4.1	Thunder-storm	
Cuttack	29.83	757.6	29.91	759.7	80.0	26.7	54	S	4.4	2.0			0					Blue sky	
Calcutta (Alipore)	29.93	760.3	29.96	760.8	72.7	22.6	78	ESE	8.0	3.6			10	SW	SW			Overcast	
Goalpara	29.59	751.5	29.99	761.7	68.7	20.4		Calm	3.5	1.6			1	W		0.22	5.6	D. clouds	
Chittagong	29.88	758.9	29.97	761.3	73.6	23.1	80	N	6.7	3.0			0			0	0	Misty	
Sibsagar	29.66	753.3	30.00	762.1	64.9	18.3	73	ENE	0.6	0.3			10	W	W	0	0	D. clouds	
Jubbulpore	28.51	724.2	29.90	759.4	78.7	23.2	27	Calm	3.0	1.3			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.97	735.8	29.38	746.3	44.2	6.8	88	SE	4.3	1.9	.....	.....	10	.....	.....	0.882	22.4	.....	Prof. Giovanni Clodig.
Padua	29.27	743.4	29.38	746.2	48.6	9.2	76	W	6.3	2.8	.....	.....	8	W	.....	0.827	21.0	.....	Prof. Dott. Lorenzoni
Milan	28.84	732.4	29.36	745.6	47.7	8.7	75	NE	.....	.....	1	.....	6	NW	.....	0.122	3.1	.....	Prof. Schiaparelli.
Moncalieri	28.47	723.2	29.39	746.4	43.0	6.1	88	NNW	2.5	1.1	.....	.....	9	E	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.43	696 6	29.34	745.2	45.5	7.5	75	NW	.....	.....	2	.....	8	NW	.....	0.224	5.7	.....	Prof. D. C. Bruno.
Genoa	29.20	741.6	29.39	746.4	50.7	10.4	73	SE	7.4	3.3	.....	.....	10	SW	.....	0.260	6.6	.....	Prof. G. M. Garibaldi.
Florence	29.20	741.8	29.46	748.3	50.0	10.0	87	SW	.....	.....	2	.....	10	SW	.....	0.614	15.6	.....	Cav. F Meucci
Leghorn	29.33	744.9	29.41	747.1	54.7	12.6	64	SW	4.3	1.9	.....	.....	7	W	.....	0.366	9.3	.....	Prof. P. Monte.
Pesaro	29.36	745.6	29.41	746.9	54.0	12.2	67	SW	10.5	4.7	.....	.....	10	SW	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.33	745.0	29.50	749.4	55.0	12.8	84	SSW	9.4	4.2	.....	.....	4	.....	.....	0.315	8.0	.....	Prof. P S. Ferrari.
Lecce	29.40	746.8	29.65	753.2	58.8	14.9	56	WSW	12.5	5.6	.....	.....	2	.....	.....	0.075	1 9	.....	Prof. C. De Giorgi.
Cagliari	29.44	747.7	29.63	752.6	58.1	14.5	56	W	.....	.....	4	.....	4	W	.....	0.315	8.0	.....	Prof. A. Pacinotti.
Cosenza	28.81	731.7	29.09	754.2	55.4	13.0	77	ESE	11.2	5.0	.....	.....	9	.....	.....	0.240	6.1	.....	Prof. D. Conti.
Palermo	29.45	748.0	29.71	754.5	58.3	14.6	52	WSW	16.8	7.5	.....	.....	7	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.63	752.7	29.71	754.5	61.9	16.6	52	SW	6.3	2.8	.....	.....	6	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.04	737.6	29.60	751.7	54.0	12.2	74	SW	12.5	5.6	.....	.....	7	.....	.....	0.130	3.3	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.15	765.8	30.17	766.3	38.7	3.7	81	N	7.6	3.4	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	761.7	30.20	767.1	41.2	5.1	83	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.08	764.0	30.15	765.8	36.1	2.3	91	ENE	5.8	2.6	.....	0	0	.....	.....	0	0	Clear.	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.07	636.7	30.23	767.9	41.4	5.2	48	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.44	620.8	30.09	764.3	53.2	11.8	71	NW	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal
Mexico, Central Obs'y	23.06	585.7	30.23	767.8	44.2	6.8	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	50.5	10.3	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Pleasant	M. V. de Leon, M. E.
Tlacotalpam	29.92	760.0	29.93	760.2	62.2	16.8	89	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	M. M. Cházaro.
San Luis Potosi	24.13	612 9	30.10	764.5	51.1	10.6	32	SW	.....	.....	1	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz	29.94	760.4	29.97	761.1	64.4	18.0	85	NW	.....	.....	.....	c	1s	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.5	41.4	5.2	57	NNE	0.9	0.4	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.42	721.9	30.10	764.4	71.6	22.0	61	NE	.....	.....	.....	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.94	760.4	30.07	763.8	62	16.6	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Cloudy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.6 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,285.8 m., or 7,498.6 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	28.98	736.1	28.98	736.1	41.4	5.2	.....	SE	.....	.....	.....	.....	.....	.....	.....	0.008	0.2	.....	
Groningen	.....	.....	.....	.....	35.6	2.0	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.11	739.4	29.11	739.4	34.5	1.4	.....	E	.....	.....	4	.....	.....	.....	.....	0.079	2.0	.....	
Hellevoetsluis	29.01	736.9	29.01	736.9	39.9	4.4	74	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.06	738.0	29.10	739.2	39.2	4.0	83	ESE	.....	.....	4	.....	10	.....	.....	0.047	1.2	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Bergen	29.52	749.8	29.58	751.2	32.4	0.2	71	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.50	756.8	29.84	757.8	24.8	— 4.0	73	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.58	751.3	29.74	755.3	19.4	— 7.0	75	E	7	3	.....	.....	7	.....	.....	.....	.....	Light snow..	
Tromsö	29.84	757.9	29.88	759.0	19.4	— 7.0	83	SW	7	3	.....	.....	8	.....	.....	0.016	0.4	....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the cooperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.30	769.6	30.49	774.5	57.6	14.2	82	W	13.0	5.8	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.1	30.10	764.4	55.4	13.0	92	WNW	11.2	5.0	.....	.....	9	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos
Funchal, (Madeira)	30.31	769.9	30.40	772.1	66.4	19.1	64	SW	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	28.78	756.3	30.13	765.4	58.3	14.6	91	WNW	22.4	10.0	.....	.....	8	.....	.....	0.138	3.5	.....	The Staff.
Ponta Delgada, (Azores)	30.46	773.7	30.53	775.5	60.4	15.8	61	NW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	Observer
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.90	759.4	83.3	28.5	.....	W	.....	.....	2	.....	0	.....	.....	1	W	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta. River Geba, Senegambria	.....	.....	29.92	759.9	79.2	26.2	.....	NNE	.....	.....	3	.....	2	.....	NE	2	NE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.72	754.9	84.2	29.0	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.13	765.4	63.5	17.5	.....	ESE	.....	.....	1	.....	3	.....	ESE	.....	.....	D. clouds	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.02	737.1	29.46	748.2	32.7	0.4	92	ENE	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.16	740.7	29.60	751.7	30.2	— 1.0	82	NE	2	1	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.41	746.9	29.67	753.6	13.6	—10.2	67	W	11	5	.....	.....	8k;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.56	750.7	29.57	751.1	15.3	— 9.3	91	NW	11	5	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Kieff	28.95	735.4	29.61	752.0	33.6	0.9	98	SSE	16	7	.....	.....	10ks;n	.....	.....	.....	.....	Rain & fog	Physical Cabinet.
Nikolaiev	29.70	754.4	29.77	756.2	44.4	6.9	90	S	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.97	761.2	29.99	761.7	46.8	8.2	93	S	7	3	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.35	745.5	29.93	760.3	22.8	— 5.1	78	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.72	755.0	29.93	760.3	37.2	2.9	79	ESE	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.71	754.7	29.73	755.2	— 1.8	—18.8	87	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.66	728 0	30.08	764.0	57.7	14.3	62	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.18	766.6	30.10	764.5	39.2	4.0	84	WNW	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.58	751.2	30.09	764.2	12.6	—10.8	78	N	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.78	756.4	30.08	763.9	11.7	—11.3	69	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	28.92	734.5	29.96	760.9	10.9	—11.7	85	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.76	755.9	29.99	761.8	56.1	13.4	25	W	7	3	.....	.....	9s	.....	.....	.....	.....	.....	
Tashkend	28.41	721.7	30.12	765.0	56 1	13.4	49	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.74	755.5	30.30	769.6	3.7	—15.7	77	NE	0	0	.....	.....	10	.....	.....	.....	.....	Snowing.	Meteorological Obs.
Yeniseisk	30.46	773.6	30.81	782.6	—31.0	—35.5	73	NW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.91	759.8	30.06	763.4	32.0	0.0	76	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.16	766.1	30.26	768.6	16.0	— 8.9	85	S	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. *N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.48	748.8	29.59	751.5	57.9	14.4	53	WNW	8.7	3.90	.....	.....	3ck;s	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.70	754.3	29.76	755.8	53.2	11.8	89	NW	5.6	2.49	.....	.....	10	.....	.....	0.898	22.8	Raining	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.82	681.1	.....	.....	51.8	11.0	81	W	10.0	4.49	.....	.....	7	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.63	701.9	.....	.....	57.2	14.0	63	SW	17.9	8.00	.....	0	9	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.72	754.9	29.87	758.7	71.4	21.9	48	NW	5.2	2.31	.....	3	6	SE	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.99	736.3	29.89	759.2	52.3	11.3	95	SW	11.9	5.3	.....	.....	10	.....	.....	0.311	7.9	Covered	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I.	30.05	763.4	30.12	765.1	63.5	17.5	84	ESE	14.5	6.5	.....	0	1k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands,	29.84	758.1	29.90	759.5	79.9	26.6	73	SE	5.6	2.5	.....	.....	.....	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.09	764 2	30.19	766.7	60.4	15.8	87	WNW	18.3	8.2	.....	3	7	W	W	0.028	0.7	... ...	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.96	761.0	30.01	762.3	74.1	23.4	97	SW	0	0	.....	4cs	8k	SW	SW	0.020	0.50	Cloudy	Leonardo de Tejeda, Ch'f. Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.84	758.0	29.88	759.0	— 1.5	—18.6	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.79	756.7	29.84	758.0	0.7	—17.4	78	NNE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.77	756.2	29.82	757.5	5.0	—15.0	91	N	.....	.....	2	.....	1	.....	.....	0.035	0.9	Snowing	
Stockholm	29.56	750.9	29.74	755.4	6.8	—14.0	75	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	29.63	752.5	29.69	754.0	21.6	— 5.8	85	E	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.68	753.9	29.76	755.8	4.8	—15.1	68	NNW	8.9	4.0	.....	.....	0	.....	.....	0.000	0.01	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.97	710.4	29.43	747.4	38.8	3.8	58	SW	.....	.....	6	.....	10	.....	.....	0.035	0.9	Raining	The Observatory.
Zurich	27.71	703.8	29.38	746.2	44.6	7.0	77	S	.....	.....	1	.....	7	.....	.....	0.106	2.7	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —15.8 mm.; Thermometer, 0 ent.; Relative Humidity, +14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	758.6	58.3	14.6	55	SSW	16	7.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.71	754.5	58.6	14.8	.....	SW	.....	.....	3	.....	10	.....	.....	0.63	16.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.99	761.7	30.11	764.7	66.9	19.4	56	W	.....	.....	1	.....	8c	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.95	760.7	30.29	769.4	13	—10.6	.....	SW	3	1.3	.....	.....	10n	.....	SW	0.17	4.3	Light snow	W. R. Bigg.
*Chatham, N B	30.33	770.4	30.40	772.1	—10	—28.3	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.40	772.1	30.44	773.2	8	—13.3	100	SW	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.99	761.7	30.20	767.1	16.5	— 8.6	69	W	.....	.....	3	.....	10s	.....	.....	0	0	Overcast	James Smith, M. A
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.88	758.9	29.93	760.2	38.1	3.4	92	Calm	0	0	.....	.....	10	.....	.....	0.08	2.0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.20	767.1	30.22	767.6	2	—16.7	86	S	30	13.4	.....	2k	2s	W	W	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.35	770.9	30.42	772.6	— 9.3	—22.9	100	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.58	751.3	30.08	776.7	—28	—33.3	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.10	739.1	30.29	769.4	17	— 8.3	.....	SW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	30.30	769.6	30.44	773.2	9	—12.8	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.89	759.2	30.29	769.4	20.7	— 6.8	81	SW	.....	.....	1	10cs	0	SW	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.92	760.0	30.28	769.1	22	— 5.6	79	S	21	9.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.39	771.9	30.44	773.2	14.8	— 9.6	93	NW	6	2.7	.....	1k	.....	NW	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.02	762.5	30.24	768.1	10	—12.2	75	S	20	8.9	.....	.....	10n	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.60	749.3	30.26	768.6	12	—11.1	80	N	5	2.2	.....	2ck	5ks	W	W	0.35	8.9	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.44	747.8	30.25	768.3	15.6	— 9.1	59	W	.....	.....	.....	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.56	750.8	30.31	769.9	19	— 7.2	84	SW	6	2.7	.....	10k	0	SW	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.60	751 8	30.30	769.6	21	— 6.1	79	W	10	4.5	.....	.....	10n	.....	W	Inap.	Inap.	Light snow	M. Payne.
*Quebec, Quebec	29.93	760.2	30.29	769.4	5	—15.0	100	W	.....	.....	1	.....	10n	.....	W	0.04	1.0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.69	754.1	30.20	767.1	3	—16.1	97	NW	2	0.9	.....	.....	8s	.....	NW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	20	— 6.7	60	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.21	767.3	30.30	771.9	9	—12.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.48	748.8	30.25	768.3	17	— 8.3	91	N	11	4.9	.....	.....	10s	.....	.....	0.20	5.1	Heavy snow	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.91	734.3	30.30	769.6	15.0	— 9.4	89	W	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	30.42	772.6	30.47	773.9	10	—12.2	75	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.88	758.9	30.30	769.6	19	— 7.2	92	W	9	4.0	.....	.....	10ks	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.35	770.9	30.45	773.4	7.0	—13.9	77	W	1	0.4	.....	0	2ks	.....	.....	0	0	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	16.0	— 8.9	83	W	.....	.....	.....	5k	5s	.....	.....	0.03	0.8	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. 0—10.	Upper. From—	Lower. From—	Inch.	Millim.		
Albany, New York	30.15	765.8	30.41	772.4	12	—11.1	70	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.59	751.6	30.32	770.1	5	—15.0	75	W	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Atlanta, Georgia	29.08	738.6	30.28	769.1	35	1.7	61	NE	13	5.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.50	774.7	30.51	774.9	22	— 5.6	72	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	30.16	766 1	30.34	770.6	38	3.3	54	E	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Baltimore, Maryland	30.43	772.9	30.49	774.4	22	— 5.6	72	S	2	0.9	.....	5c	Fog	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	30.45	773.4	30.47	773.9	24	— 4.4	61	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.33	719.6	30.18	766.6	3	—16.1	100	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.42	721.9	29.73	755.1	48	8.9	100	SE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Boise City, Idaho	27.19	690.6	30.15	765.8	31	— 0.6	79	Calm	0	0	.....	0	5s	.....	Calm	0.06	1.5	Fair	
Boston, Massachusetts	30.30	769.6	30.47	773.9	16	— 8.9	58	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.80	731.5	29.86	758.4	42	5.6	83	SE	1	0.4	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	29.26	743.2	30.42	772.6	—11	—23.9	90	N	6	2.7	.....	5ck	0	NW	.....	0	0	Fair	
Brownsville, Texas	29.82	757.4	29.88	758.9	60	15.6	94	E	3	1.3	.....	.....	10ks	.....	S	0	0	Cloudy	
Buffalo, New York	29.56	750.8	30.32	770.1	17.5	— 8.5	75	SW	9	4.0	.....	.....	10n	.....	SW	Inap.	Inap.	Light snow	
Burkes, Arizona	.....	.....	.....	.....	47	8.3	8	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.04	763 0	30.37	771.4	12	—11.1	61	S	12	5.4	.....	.....	10s	.....	W	0	0	Cloudy	
Cairo, Illinois	29.81	757.2	30.22	767.6	37	2.8	70	E	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.05	641.3	29.85	758.2	45	7.2	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	41	5.0	57	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.48	698.0	30.04	763.0	38	3.3	100	SW	4	1 8	.....	.....	Fog	.....	SW	0	0	Foggy	
Cape Hatteras, N. Carolina	30.37	771.4	30.38	771.6	40	4.4	91	NE	26	11.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape Henry, Virginia	30.40	772.1	30.42	772.6	31	— 0.6	69	NE	16	7.2	.....	5c	0	N	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.33	770.4	30.35	770.9	37	2.8	81	NE	28	12.5	.....	.....	10ks	.....	NE	0	0	Cloudy	
Cape May, New Jersey	30.45	773.4	30.48	774.2	28	— 3.3	76	SE	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Castroville, Texas	29.13	739.9	29.84	757.9	49	9.4	86	E	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Charleston, South Carolina	30.22	767.6	30.28	769.1	41	5.0	65	NE	12	5.4	.....	.....	10ks	.....	S	0.01	0.3	Cloudy	
Cheyenne, Wyoming	23.78	604.0	29.72	754.9	22	— 5.6	72	NW	15	6.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.53	750.0	30.26	768.6	29	— 1.7	89	S	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.65	753.1	30.35	770.9	26	— 3.3	63	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cleveland, Ohio	29.58	751.3	30.36	771.1	23	— 5.0	73	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.07	713.0	29.76	755.9	41	5.0	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.43	747.5	30.33	770.4	25	— 3.9	75	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Concho, Texas	27.87	707.9	29.56	750.8	39	3.9	47	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Corsicana, Texas	29.49	749.0	29.96	761.0	47	8.3	69	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.52	749.8	30.20	767.1	27	— 2.8	76	E	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Deadwood, Dakota	25.23	640.8	.....	.....	19	— 7.2	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.76	730.5	29.94	760.5	43	6.1	89	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Denison, Texas	29.21	741.9	30.03	762.8	36	2.2	71	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denver, Colorado	24.57	624.1	29.79	756.7	28	— 2.2	88	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.22	742.2	30.16	766.1	23	— 5.0	86	NL	7	3.1	.....	.....	10n	.....	Calm	0.33	8.4	Light snow	
Detroit, Michigan	29.58	751.3	30.30	769.6	22	— 5.6	77	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.33	694.2	29.74	755.4	21	— 6.1	100	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Dubuque, Iowa	29.51	749.5	30.28	769.1	16	— 8.9	66	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.63	752.6	30.40	772.1	— 1	—18.3	68	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.12	739.6	29.89	759.2	40	4.4	82	NE	.....	.....	1	.....	10s	.....	SE	0	0	Cloudy	
Eastport, Maine	30.31	769.9	30.39	771.9	18	— 7.8	68	SW	4	1.8	.....	8ck	0	SW	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	59	15.0	88	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	26.18	665.0	.....	.....	52	11.1	23	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.58	751.3	30.35	770.9	21	— 6.1	86	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.62	752.3	30.36	771.1	— 2	—18.9	67	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.39	721.1	29.99	761 7	46	7.8	69	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.07	713.0	.....	.....	6	—14.4	100	NE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Fort Craig, New Mexico	25.29	642.4	29.36	745.7	44	6.7	58	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.14	638.5	30.10	764.5	56	13.3	38	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.49	749.0	30.06	763.5	34	1.1	70	E	2	0.9	.....	.....	10s	.....	E	0.26	6.6	Cloudy	
Fort Griffin, Texas	28.52	724.4	29 83	757.7	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.43	696.7	.....	.....	10	—12.2	79	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.61	701.3	29.54	750.3	45	7.2	84	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.86	758.4	33	0.6	89	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.33	719.6	.....	.....	2	—16.7	100	SE	.....	.....	1	.....	10n	.....	Calm	Inap.	Inap.	Snowing	
Fredericksburg, Texas	28.11	714.0	29.64	752.8	55	12.8	87	S	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.90	759.4	29.95	760.7	58	14.4	94	E	5	2.2	.....	.....	10s	.....	E	Inap.	Inap.	Cloudy	
Graham, Texas	29.82	757.4	29.91	759.7	35	1.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.60	751.8	30.31	769.9	19	— 7.2	69	NE	6	2.7	.....	2ck	2s	NW	Calm	0.06	1.5	Fair	
Indianapolis, Indiana	29.44	747.8	30.27	768.8	26	— 3.3	75	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Indianola, Texas	29.92	760.0	29.94	760.5	55	12.8	93	E	4	1.8	.....	.....	10s	.....	S	0.01	0.3	Threatening	
Jacksboro, Texas	28.95	735.3	30.18	766.6	21	— 6.1	86	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Jacksonville, Florida	30.18	766.6	30.21	767.3	54	12.2	80	NE	8	3.6	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Keokuk, Iowa	29.47	748.5	30.12	765.0	31	— 0.6	89	E	7	3.1	.....	.....	10n	.....	Calm	0.25	6.3	Light snow	
Key West, Florida	30.10	764.5	30.14	765.5	68	20.0	84	NE	6	2.7	.....	0	1ks;fg	.....	Calm	0	0	Clear	
Kittyhawk North Carolina	30.37	771.4	30.39	771.9	35	1.7	80	NE	21	9.4	.....	10cs	0	W	.....	0	0	Cloudy	
Knoxville, Tennessee	29.27	743.4	30.34	770.6	30	— 1.1	78	NE	1	0.4	.....	Haze	Sm'o	Calm	.....	0	0	Cloudy	
La Crosse, Wisconsin	29.52	749.8	30.35	770.9	2	—16.7	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	25.92	658.4	30.07	763.8	38	3.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.48	748.8	29.88	758.9	52	11.1	93	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.18	741.2	30.06	763.5	30	— 1.1	89	S	1	0.4	.....	.....	10n	.....	.....	0.52	13.2	Light snow	
Los Angeles, California	29.63	753.9	30.03	762.8	47.5	8.6	85	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.70	754.4	30.30	769.6	27	— 2.8	76	N	4	1.8	.....	.....	10s;sm'	.....	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.69	754.1	30.43	772.9	23	— 5.0	72	W	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	29.22	742.2	30.31	769.9	12	—11.1	61	S	8	3.6	.....	0	5s	.....	SW	0	0	Fair	
Marquette, Michigan	29.53	750.0	30.31	769 9	8	—13.3	55	NW	12	5.4	.....	0	5s	.....	N	0	0	Fair	
Mason, Texas	28.23	717.0	29.99	761.7	48	8.9	77	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.81	757.2	30.15	765.8	36	2.2	70	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.50	749.3	30.30	769.6	14	—10.0	65	NW	12	5.4	.....	0	8s	.....	W	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.05	764.0	30.13	765.3	49	9.4	93	N	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Montgomery, Alabama	29.97	761.2	30.21	767.3	44	6.7	67	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Threatening	
Morgantown, West Virginia	29.25	742.9	30.39	771.9	26	— 3.3	52	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.53	597.6	29.89	759.2	— 8	—22.2	56	NW	66	29.5	.....	0	2s	.....	NW	0	0	Clear	
Nashville, Tennessee	29.68	753.9	30.25	768.3	34	1.1	79	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light snow	
New Haven, Connecticut	30.35	770.9	30.48	774.2	20	— 6.7	76	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
New London, Connecticut	30.42	772.6	30.48	774.2	21	— 6.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	29.97	761.2	30.03	762.8	56	13.3	87	E	6	2.7	.....	0	8s;sm	.....	sW;Calm	0	0	Fair	
Newport, Rhode Island	30.45	773.4	30.50	774.7	21	— 6.1	64	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.31	769.9	30.51	774.9	19	— 7.2	69	W	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.39	771.9	30.45	773.4	27	— 2.8	64	E	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'per 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.04	686.8	29.74	755.4	21	— 6.1	86	NE	14	6.3			10n		Calm	0.04	1.0	Light snow.	
Olympia, Washington Ter.	29.96	761.0	30.00	762.0	38.2	3.4	91	S	7	3.1			10n		Calm	0.21	5.3	Light rain...	
Omaha, Nebraska	28.92	734.6	30.09	764.3	22	— 5.6	86	NE	10	4.5			10n		Calm	0.31	7.9	Light snow..	
Oswego, New York	30.01	762 2	30.86	771.1	20	— 6.7	70	S	8	3.6			10s		Calm	0	0	Cloudy	
Pembina, Dakota	29.54	750.3	30.51	775.7	—30	—34.4	100	NW	4	1.8		0	0			0	0	Clear	
Philadelphia, Pa	30.42	772.6	30.48	774.2	22	— 5.6	72	S	2	0.9		0	Fog		Calm	0	0	Clear.	
Phœnix, Arizona	28.72	729.5	30.53	775.4	51	10.6	53	NE			1	0	0			0	0	Clear	
Pike's Peak, Colorado	17.35	439.5	29.56	750.8	— 7	—21.7	59	NW	12	5.4		5cs	0	NW		0.39	9.9	Fair	
Ploche, Nevada	23.92	607.6	29.69	754.1	29	— 1.7	78	N	6	2.7		0	5s		Calm	0.03	0.8	Fair	
Pittsburg, Pennsylvania	29.50	749.3	30.38	771.6	22	— 5.6	72	Calm	0	0			10s		Calm	0	0	Cloudy	
Port Huron, Michigan	29.57	751.1	30.29	769.4	19	— 7.2	85	SW	6	2.7			10ks		SW	0	0	Cloudy	
Portland, Maine	30.38	771.7	30.43	772.9	14	—10.0	64	W	8	3.6		0	Haze			0	0	Clear	
Portland, Oregon	30.06	763.5	30.16	766.1	40.5	4.7	91	S	11	4.9		0	8s			0.27	6.9	Cloudy	
Prescott, Arizona	24.59	624.6	29.95	760.7	41	5.0	57	W	5	2.2		0	0			0	0	Clear	
Pilot Point, Texas	29.04	737.6	29.88	758.9	45	7.2	60	NW	15	6.7		8k	2s	N	NW	0	0	Cloudy	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	59	15.0	82	NE	8	3.6		2c	0	W		0	0	Clear	
Red Bluff, California	29.82	757 4	30.20	767.1	43	6.1	92	NW	2	0.9			10s		Calm	0.07	1.8	Cloudy	
Rio Grande City, Texas	29.74	755.4	29.99	761.0	55	12.8	93	E	4	1.8			Fog			0	0	Foggy	
Rochester, New York	29.65	753.1	30.32	770.1	16	— 8.9	83	W	9	4.0		10k	0	W		0	0	Cloudy	
Roseburg, Oregon	29.62	752.3	30.22	767.6	36.5	2.6	86	Calm	0	0		0	1s		Calm	0.04	1.0	Clear	
Sacramento, California	30.08	764.0	30.16	766.1	48	8.9	97	N	4	1.8			10n		Calm	0.50	12.7	Light rain...	
St. Louis, Missouri	29.58	751.3	30.18	766.6	30	— 1.1	78	SE	6	2.7			10s		Calm	0.12	3.0	Cloudy	
St. Marks, Florida	30.20	767.1	30.21	767.3	48	8.9	85	NE	4	1.8			10s		Calm	0	0	Cloudy	
St. Paul, Minnesota	29.39	746.5	30.32	770.1	5	—15.0	75	N	6	2.7		0	1ks		Calm	0	0	Clear	
Salt Lake City, Utah	25.52	648.2	29.85	758.2	32	0.0	69	NW	4	1.8			10s		Calm	0.05	1.3	Cloudy	
San Antonio, Texas	29.22	742.2	29.81	757.2	48	8.9	93	NE	2	0.9			10s		Calm	0	0	Threatening	
San Diego, California	30.00	762.0	30.08	764.0	56	13.3	84	W	10	4.5			8s		W	0	0	Cloudy	
Sandusky, Ohio	29.61	752.1	30.33	770.4	26	— 3.3	88	SW	6	2.7			10s		Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.44	773.2	30.48	774.2	22	— 5.6	74	SW	8	3.6		0	0			0	0	Clear	
San Francisco, California	30.09	764.3	30.15	765.8	50	10.0	86	NE	2	0.9		2k	0	W		0.55	14.0	Fair	
Santa Fé, New Mexico	23.01	584.4	29.55	750.6	30	— 1.1	100	N	3	1.3			10n		Calm	0.04	1.0	Light snow.	
Savannah, Georgia	30.18	766.6	30.27	768.8	44	6.7	84	NE	8	3.6			10n		S	0.02	0.5	Light rain...	
Shreveport, Louisiana	29.80	756.9	30.02	762.5	44	6.7	68	E	4	1.8			10s		Calm	0	0	Cloudy	
Silver City, New Mexico	24.13	612 9	30.28	769.1	45	7.2	46	NW	8	3.6		0	0			0	0	Clear	
Smithville, North Carolina	30.33	770.4	30.37	771.4	33	0.6	70	NE	10	4.5		10cs	0	W		0	0	Cloudy	
Springfield, Massachusetts	30.32	770.1	30.47	773.9	16	— 8.9	66	Calm	0	0		0	0			0	0	Clear	
Stockton, Texas	26.75	679.4	29.75	755.6	49	9.4	84	SW	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	30.43	772.9	30.49	774.4	21	— 6.1	71	NW	10	4.5		0	0			0	0	Clear	
Toledo, Ohio	29.58	751.3	30.31	769.9	28	— 2.2	66	SW	4	1.8			10s		Calm	0	0	Cloudy	
Tucson, Arizona	27.44	697.0	29.99	761.7	46	7.8	54	S	3	1.3		0	0			0	0	Clear	
Umatilla, Oregon	29.77	756.1	30.30	769.6	22.0	— 5.6	100	SE	4	1.8			Fog		SE	0.10	2.5	Foggy	
Unalaska, Aleutian Islands					27	— 2.8	77	N			1		10s		N	0	0	Cloudy	
Uvalde, Texas	29.06	738.1	29.90	759.4	50	10.0	79	Calm	0	0			10s		Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.84	757.9	30.11	764.8	39	3.9	91	E	10	4.5			10n		Calm	0.24	6.1	Light rain	
Virginia City, Montana	24.02	610.1	29.50	749.3	9	—12.8	78	Calm	0	0		0	0			0.02	0.5	Clear	
Visalia, California	29.74	755.4	30.12	765.0	49	9.4	85	NE	1	0.4		0	5s		Calm	0.02	0 5	Fair	
Washington, D. C.	30.35	770 9	30.47	773.9	20	— 6.7	85	Calm	0	0		5cs	Fog	Calm	Calm	0	0	Fair	
Wickenburg, Arizona					44	6.7	76	N			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.28	769.1	30.36	771.1	30	— 1.1	67	NE	8	3.6		5ck	5s	S	Calm	0	0	Cloudy	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	26	— 3.3	88	S	8	3.6		2c	0	Calm		0.08	2.0	Fair	
Wood's Holl, Mass	30.43	772.9	30.47	773.7	24	— 4.4	74	W	12	5.4		0	0			0	0	Clear	
Yankton, Dakota	28.91	734.3	30.34	770.6	5	—15.0	75	NE	2	0.9		0	2s		Calm	0	0	Fair	
Yuma, Arizona	29.72	754.9	29.89	759.2	58	14.4	76	NE	2	0.9		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.45	722.6	29.92	760.0	30	— 1.1	100											Cloudy	J. B. Gordon.
Havana, Cuba. W. I	30.08	764.0	30.13	765.3	67	19.4	73	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	29.97	761.2	30.05	763.3	76	24.4		NE	12.5	5.6								Partly clo'dy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	79	26.1	91	E			1	3c	5k	E		0	0	Fair	C. J. Hering
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.13	765.3	30.18	766.6	—35.0	—37.2		W	14	6.3		2c	0	W		0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft.. or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,022 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.6 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.32 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.90 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.60 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.10	766.8	49	9.4	47.5	8.6	92	W	6	2.7	.....	.....	10	.....	Calm	0.3	8.	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.15	765.8	66	13.3	56	13.3	94	E	15	6.7	.....	.....	10	.....	SE	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N. H	30.49	774.4	44	6.7	11	—11.7	80	SW	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.10‡	764.5‡	.....	.....	41.5	5.3	78	Calm	.....	.....	0	.....	5k;s	.....	W	0.04	1.0	.....	.....	Fair.....	
Adams. Panama	29.96	761.0	79	26.1	77	25.0	95	N	.....	.....	1	.....	5	.....	N	.....	.....	.....	.....	Fair.....	
Alaska. Pichilinque Bay, Mexico	30.07	763.8	71	21.7	62	16.7	88	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Smooth	.....	D. clouds.....	
Alliance, Villafranca, France.....	29.91‡	759.7‡	.....	.....	55	12.8	50	WSW	.....	.....	1	.....	9	.....	Calm	.....	.....	Light	S	Threatening	
Ashuelot, Hong-Kong, China.	30 09‡	764.3‡	.....	.....	61	16.1	50	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La.....	30.22	767.6	41	5.0	41	5.0	59	E	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	30.43	772.9	20	— 6.7	21	— 6.1	100	SW	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Constitution, N. 41° 22', W. 15° 53'.....	30.15‡	765.8‡	.....	.....	57	13.9	100	W	.....	.....	5	.....	10	.....	Calm	.....	.....	Long	W	Misty.....	
Despatch, Constantinople, Turkey	29.87‡	758.7‡	.....	.....	59	15.0	76	SW	.....	.....	1	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Essex, S. 37° 52', W. 56° 00'.....	29.65	753.1	66	18.9	66	18.9	94	NNE	.....	.....	6	.....	8	.....	NNE	.....	.....	Rough	NNE	Fair.....	
Franklin, Norfolk, Va.....	30.58	776.7	65	18.3	28	— 2.2	77	NNE	3	1.3	.....	.....	2	.....	NE	0	0	.....	.....	Clear.	
Gettysburg, Genoa, Italy	29.65‡	753.1‡	.....	.....	50	10.0	100	SE	.....	.....	3–4	.....	8	.....	SE	Blank	Blank	.....	.....	Cloudy.....	
Hartford, Montevideo, Uruguay...	29.75	755.6	79	26.1	80	26.7	66	NW	.....	.....	4	.....	8	.....	.....	0.05	1.3	Mod'ate	NW	Hazy.....	
Lackawana, Panama.....*...	29.75‡	755.6‡	.....	.....	77	25.0	91	NNW	.....	.....	1	.....	3	.....	.....	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....†...	30.15	765 8	.....	.....	21	— 6.1	86	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China.....*	30.16‡	766 1‡	.....	.....	46	7.8	77	SSE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongehela, Yokohama, Japan ....*..	30.09‡	764.3‡	.....	.....	39	3.9	100	NE	.....	.....	1	.....	3	.....	N	Light	Light	.....	.....	D. clouds.....	
New Hampshire, Port Royal, S. C.....	30.26	768.6	45	7.2	45	7.2	92	NE	20	8.9	.....	.....	10	.....	NE	0.1	3.	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†...	30.01	762.2	.....	.....	66	18.9	94	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.03	762.8	39	3.9	29	— 1.7	100	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	18	— 7.8	84	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, S. 28° 50', W. 112° 50'....	30.19‡	766.8‡	.....	.....	73	22.8	85	NE	10	4.5	.....	.....	8	.....	NE	0	0	Smooth	SE	Fair.....	
Powhatan, Santa Cruz.....	30.10	764.5	75	23.9	75	23.9	86	NE	.....	.....	2	.....	5	.....	NE	0	0	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.39‡	746 5‡	.....	.....	53	11.7	87	WSW	.....	.....	4	.....	10	.....	SW	.....	.....	Ground	S	Cloudy.....	
Ranger. Kobe, Japan.....*...	30.14‡	765.5‡	.....	.....	61	16.1	66	N	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, N. 41° 10' E 5° 30'.....	29.60‡	751.8‡	.....	.....	55	12.8	74	WNW	.....	.....	6	.....	10	.....	W	.....	.....	Mod'ate	W	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.83	757.7	62	16.7	60	15.6	100	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	29.47‡	748.5‡	.....	.....	25	— 3.9	.....	S	.....	.....	0–1	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
St. Louis, League Island, Pa.....	30.34	770.6	56	13.3	19	— 7.2	.....	S	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, N. 21° 44', W. 36° 59'.....	30.23‡	767.8‡	.....	.....	72	22.2	80	ESE	.....	.....	4	.....	2	.....	ESE	.....	.....	Mod'ate	ESE	Clear	
Trenton Villafranca, France.....	29.37‡	746.0‡	.....	.....	57	13.9	63	SW	.....	.....	1–2	.....	10	.....	SW	0.40	10.2	Mod'ate	S	Cloudy	
Tuscarora, Acapulco, Mexico.....	29.96‡	761.0‡	.....	.....	78	25.6	73	E	.....	.....	0–1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.38‡	771.6‡	.....	.....	15	— 9.4	82	SW	9	4.0	.....	.....	0	.....	.....	.....	.....	.....	S	Clear.....	
Wyoming, Smyrna, Turkey.....	29.96	761.0	.....	.....	62	16.7	94	S	.....	.....	2–5	.....	5	.....	S	.....	.....	Mod'ate	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 15° 34', W. 96° 56'....†		30.02‡	762.5‡	77	25.0	100	N			2		0				Small	NE	Blue sky	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 12° 42', W. 161° 16'		29.96‡	761.0‡				ENE			6			E;NNE			Mod'ate	ENE	Fine	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Yokohama, Japan		29.98‡	767.6‡	48	8.9	78	NE			2		ck		NE		Smooth		D. clouds	J. A. Thompson, 2d Off'r.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 44° 55', W. 42° 05'		30.22‡	767.6‡	48.9	9.4		WNW			6		10		W	Blank	6	WNW	Misty	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 42° 20′, W. 55° 56′		30.32‡	770.1‡	42	5.6		WNW			4		6		WNW	Mod'ate	Light	W	Cloudy	Captain Sargent.
S. S. Ohio, N. 51° 01′, W. 11° 36′ †.		29.30‡	744.2‡	40	9.4		Var.			2		8		WNW	Blank	Large	NW	Cloudy	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian, N. 44° 17′, W. 54° 11′		30.43‡	772.9‡	25	— 3.9		NW			5		9k		WNW	0	Short	W	D. clouds	Capt. W. Richardson.
MARINE SERIES. (Miscellaneous.																			
Furnished by the cooperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

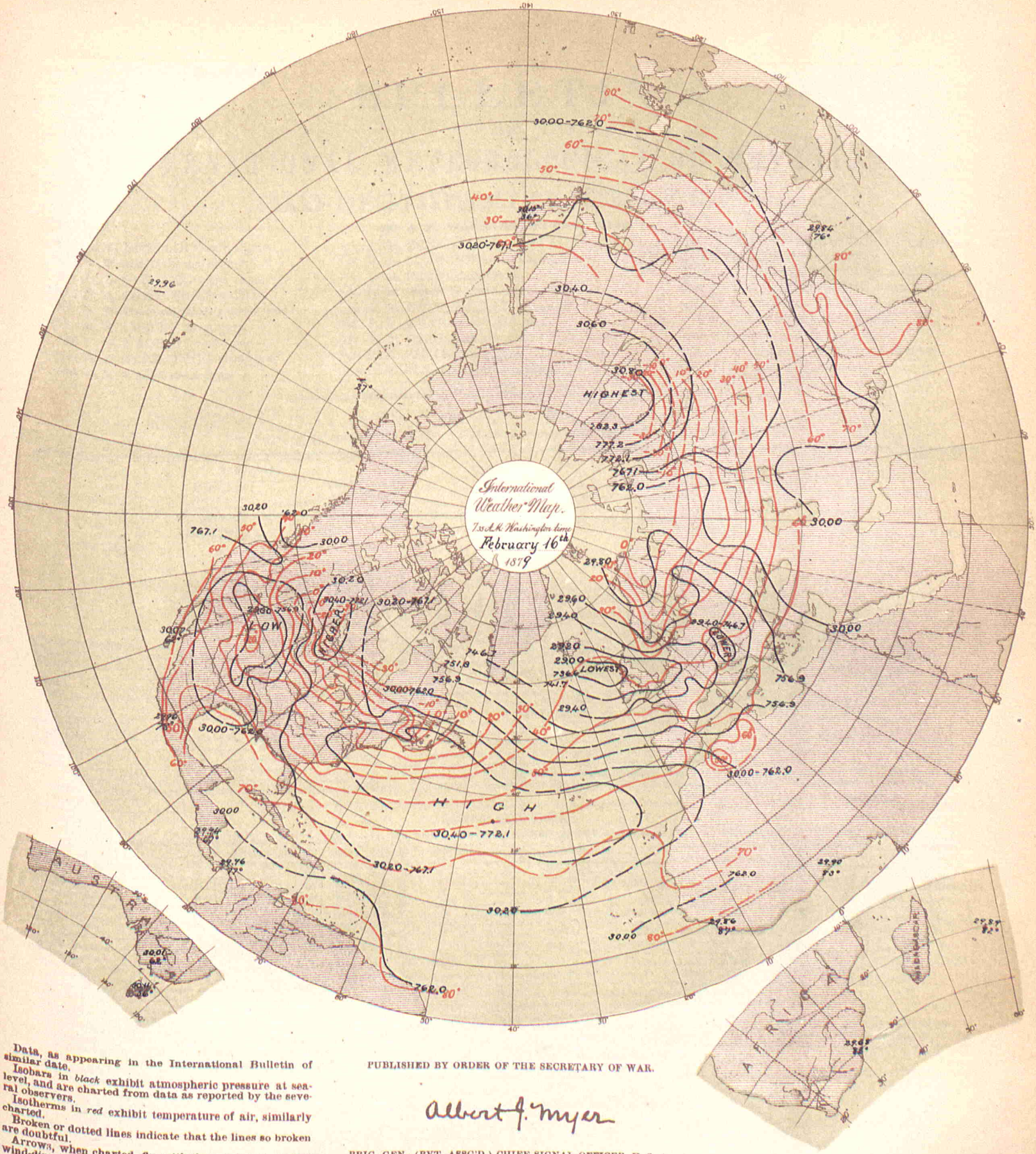
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 17, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.31	769.9	61.7	16.5		NE			2		8			0	0	Very cloudy	
Nemours			30.11	764.9	62.2	16.8	80	WNW			3		10			0	0	Covered	Kesxuche.
Algiers			29.81	757.1	64.4	18.0	67	WSW			8		10			0	0	Covered	Tourillere.
La Calle			29.71	754:7	64.8	18.2	66	NW			6		8			0.591	15.0	Very cloudy	Foufrede.
Tunis			29.68	753.8	65.3	18.5	56	NW			8		8			0.031	0.8	Very cloudy	Jacques.
Sfax			29.85	758.2															Gau.
Saida			30.00	762.1	57.2	14.0	57	NW			5		8			0.020	0.5	Very cloudy	Herbin.
Tebessa			29.90	759.4	59.4	15.2	41	W			5		8			0	0	Very cloudy	Watrin.
Geriville			29.90	759.4	54.0	12.2	65	NW			5		8			0	0	Very cloudy	Brugnlaux.
Laghouat			29.98	761.4	54.0	12.2	45	WNW			7		2			0	0	Fair	Bertrand.
Biskra			30.01	762.3	59.4	15.2	51	NW			3		8			0	0	Very cloudy	Chanvaux.
			29.89	759.2	67.5	19.7													

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.64	727.5	29.19	741.5	41.0	5.0	92	SW			2		10			0.197	5.0	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.47	723.2	29.24	742.7	41.4	5.2	84	E			1		8			0.012	0.3		Dr. Wierzbiski
Eperies	28.37	720.6	29.25	742.9	42.4	5.8	96	S			2		Fog			0.028	0.70	Foggy	Julius Mikolik.
Gratz	27.98	710.6	29.23	742.5	39.2	4.0	80	S			2		5			0.831	21.1		Andreas Rospini.
Hermannstadt	27.90	708.6	29.29	744.0	34.5	12.5	51	S			4		5			0.063	1.60		Prof. A. Gottschling.
Kremsmünster	27.85	707.4	29.19	741.3	41.4	5.2	60	WSW			2		5			0	0		Prof. C. Wagner.
Lemberg	28.24	717.3	29.22	742.2	45.7	7.6	77	S			1		7			0.004	0.1		Dr. T. Stanecki.
Pola	29.09	738.9	29.20	741.8	47.5	8.6	74	WSW			7		9			0.197	5.0	Thunder-storm.	I.R.Hydrographic Office.
Szathmar	28.84	732.5	29.30	744.1	50.0	10.0	76	E			2		6			0.287	7.3		Julius Csics, S. J.
Szegedin	28.91	734.2	29.18	741.2	52.9	11.6	67	S			4		8			0	0		Karl Stancel.
Trieste	29.12	739.7	29.22	742.3	43.0	6.1	81	E			1		10			0.606	15.4	Raining	P. Busin.
Vienna	28.40	723.6	29.21	741.9	38.5	3.6	83	WNW			3		10			0.028	0.7	Raining	I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	28.77	730.7	28.97	735.8	37.8	3.2	89	WSW			2		10		W	0.049	1.25		Royal Observatory.
Furnes	28.96	735.6	28.98	736.2	37.9	3.3	94	W			2		10			0.059	1.5	Raining	M. E. de Cae.
Maeseyck	28.84	732.4	28.96	735.6	39.4	4.1	94	SW			2		10			0.094	2.4		M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:3, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.00	736.6	29.10	739.1	34.0	1.1	.....	SE	40	17.9	.....	.....	10	.....	.....	0.180	4.57	Rain & snow	W. Boswell.
Ardrossan	28.91	734.3	28.93	734.8	37	2.8	.....	ESE	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy	William McNeil.
Armagh, Observatory	.....	.....	28.94	735.1	35.8	2.1	.....	SW	8	3.6	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	28.95	735.3	40.2	4.6	.....	W	16	7.2	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton, (Sharples)	.....	.....	28.98	736.1	34.0	1.1	.....	W	18	8.0	.....	.....	10	.....	.....	.....	.....	Snowing	Thomas Mackereth.
Bradford, Yorkshire	28.57	725.7	28.97	735.8	35.9	2.2	.....	NE	.....	.....	2	.....	10	.....	.....	0.01	0.3	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.98	761.5	74	23.3	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Raining	Pvt. J. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	28.98	736.1	40.5	4.9	.....	NW	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	H. Todd.
Cardington	.....	.....	29.03	737.3	41.0	5.0	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	28.87	733.3	29.00	736.6	37.9	3.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	27.59	700.8	29.05	737.9	38.0	3.3	.....	NW	.....	.....	5	.....	6	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	28.89	733.8	28.94	735.1	37	2.8	.....	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	28.95	735.3	28.97	735.8	39	3.9	.....	N	.....	.....	2	.....	9	.....	.....	.....	.....	Showery	J. Costello.
Falmouth, Observatory	28.90	734.0	29.13	739.9	45.0	7.2	.....	W	.....	.....	5	.....	6	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.68	703.1	30.00	762.0	63.0	17.2	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. J. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.62	752.3	29.86	758.4	87	30.6	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	28.94	735.1	39	3.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.09	764.3	30.14	765.5	59.9	15.5	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.76	730.5	28.97	735.8	36.8	2.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean.
Great Yarmouth	28.96	735.6	28.96	735.6	37	2.8	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Drizzling	G. T. Watson.
Greenwich, Royal Obs'y	28.84	732.5	29.01	736.8	39.2	4.0	.....	NW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy
Guernsey	28.89	733.8	29.12	739.6	46	7.8	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.09	738.9	29.21	741.9	45	7.2	.....	NW	.....	.....	2	.....	8ck	.....	.....	0.8	20.	Fine	M. P. Moyle.
Holyhead	28.91	734.4	28.96	735.6	39	3.9	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	John Tilston.
Jersey	28.83	732.3	29.12	739.6	45.6	7.6	.....	W	.....	.....	6	.....	9	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	28.98	736.1	29.01	736.8	39.2	4.0	.....	NW	5	2.2	.....	.....	8	.....	.....	.....	.....	Misty	The Meteorological Of.
Leicester, Museum	28.74	730.0	28.99	736.3	36.8	2.7	.....	W	.....	.....	1	.....	10	.....	.....	Blank	Blank	Misty	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.62	752.3	29.70	754.4	61	16.1	.....	SW	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	28.95	735.3	29.04	737.6	36	2.2	.....	SE	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.11	764.8	71.0	21.7	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	28.80	731.5	28.99	736.3	38.2	3.4	.....	SSW	.....	.....	1	.....	10d	.....	W	.....	.....	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.46	722.9	28.98	736.1	40.2	4.6	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.00	736.8	40	4.4	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.00	736.6	29.08	738.6	46.6	8.1	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.02	737.1	29.06	738.1	40	4.4	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Hailing	W. Kennedy.
Saint Ann's Head	28.85	732.8	29.01	736.8	42	5.6	.....	WNW	.....	.....	5	.....	7	.....	.....	.....	.....	Showery	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.19	741.4	32.1	0.1	.....	ESE	40	17.9	.....	.....	10	.....	.....	.....	.....	Snowing	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.58	751.3	55.4	13.0	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	W. H. Lyne.
Sheffield	28.72	729.5	29.00	736.6	37.9	3.3	.....	Calm	.....	.....	0	.....	10	.....	.....	0.02	0.5	Overcast	W. F. Cooper.
Silloth Rectory	28.83	732.3	28.86	733.0	37.2	2.9	95	Calm	.....	.....	0	.....	10	.....	.....	0.065	1.65	Overcast	Francis Redford, A. M.
Stonyhurst, Observatory	28.57	725.7	28.98	736.1	36.2	2.3	.....	ENE?	.....	.....	07	.....	10	.....	.....	.....	.....	Drizzling	Rev. S. J. Perry.
Stratfield Turgiss	28.82	732.0	29.04	737.6	39.8	4.3	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Showery	C. H. Griffith, F. M. S.
Thurso	29.07	738.4	29.14	740.1	34	1.1	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing	John Trotter.
Truro, Royal Institution	.....	.....	29.14	740.1	48	8.9	.....	NW	.....	.....	6	.....	10	.....	.....	Blank	Blank	Gloomy	W. Newcombe.
Valencia, Observatory	29.08	738.6	29.11	739.4	39.3	4.1	.....	WNW	23	10.3	.....	.....	7	.....	.....	.....	.....	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.88	758.9	29.92	760.0	90	32.2	30	S	24	10.7	.....	0	2	.....	.....	0	0	Fine	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	30.07	763.8	61.0	16.1	83	SE	.....	.....	3	.....	8k	.....	.....	.0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.03	737.3	37.0	2.8	.....	SE	.....	.....	2	.....	9k	S	.....	0.01	0.3	Cloudy	Andrew Gibb.
Mauritius, Observatory	29.71	754.6	29.90	759.4	81.9	27.7	65	E	19.0	8.5	.....	0	3	.....	E	0.01	0.3	Squally	C. Meldrum.
Melbourne, Observatory	29.84	757.9	29.93	760.2	60.7	15.9	72	SE	19	8.5	.....	.....	0	.....	.....	0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	28.92	734.6	40	4.4	.....	ESE	.....	.....	4	5	3	SE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.37	746.0	33	0.6	.....	SSE	.....	.....	4	4	6	SE	.....	.....	.....	.....	Robert Burnet.

Note.—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7	29.97	761.2	60.8	16.0	82	NE			2		1s		E	0	0		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.73 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.22	742.3	29.27	743.5	21.7	— 5.7	93	E			7		10					Snowing	
Fanöe	29.12	739.5	29.13	739.9	25.0	— 3.9	87	ENE			7		10						
Godthaab, (Greenland)	29.38	746.2	29.42	747.3	9.3	—12.6	73	ENE			4		9						
Stykkisholm, (Iceland)																			
Thorshavn, (Faröe)	29.28	743.8	29.32	744.7	37.0	2.8	67	ESE			6		10						
Vestervig	29.13	739.9	29.30	744.2	13.6	—10.2	87	NE			8		10					Snowing	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.65	727.6	29.20	741.6	41.7	5.4	97	NW			3		5		NW	0.191	4.9	Cloudy	Collignon, Director.
Amiens, Normal School	28.89	733.9	29.00	736.6	46.4	8.0	83	WSW			1		2		E	0.335	8.5	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.36	745.6	29.43	747.6	53.2	11.8	76	SW			1		5		SW	0	0	Cloudy	M. Giraud, Director.
Bar-sur-Seine	28.57	725.6	29.13	739.9	45.0	7.2	77	W			2		8		WNW	0.157	4.0	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	28.76	730.6	29.05	737.8	43.5	6.4	78	W			3		8		WNW	0.246	6.25	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.30	718.8	29.18	741.2	45.5	7.5	81	SW			3		10		SW	0.484	12.3	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.48	723.3	29.37	745.9	42.4	5.8	88	S			3		10n	S	S	0.28	7.	Raining	M. Marlot, Director.
Bourges, Normal School	28.69	728.7	29.24	742.7	50.0	10	79	W			6		8	W	W	0.08	2.	Very cloudy	A. Waquet, Director.
Brest, Naval Observatory	28.96	735.5	29.20	741.6	48.9	9.4	76	NW			3		10		NW	0.098	2.50		M.de Rermaree, Director
Carcassonne, Normal School	29.12	739.5	29.53	750.0	52.5	11.4	80	W			2		5	NW	W	1.69	43.	Cloudy	September, Director.
Caen, Normal School	28.97	735.9	29.05	737.8	47.5	8.6	78	SW			6		10		NE	0.087	2.2	Covered	M. Lair, Director.
Chartres, Normal School	28.51	724.1	29.06	738.1	50.0	10	97	W			3		8		E	0.12	3.		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	28.75	730.3	29.07	738.4	38.8	3.8	93	NW			3		10	NW	NW	0.276	7.0	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	27.91	708.9	29.24	742.8	48.7	9.3	60	W			4		10		W	0.067	1.7		Alluard, Director.
Commercy, Normal School	28.19	715.9	29.06	738.0	41.2	5.1	90	SW			6		10		SW	0.402	10.2	Rain & snow	Dr. Coulet, Director.
Commune de Gréasque*	28.30	718.8	29.44	747.8	48.4	9.1	86	W			2		8		W	0.24	6.	¾ covered	M. Kina, Director.
Grenoble, Normal School	25.63	727.2	29.40	746.8	43.5	6.4	82	NNW			1		10n			0.28	7.	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.13	740.0	29.35	745.4	50.7	10.4	95	W			4		8			0.228	5.8	Light rain	Mouillot, Director.
Le Mans, Normal School	28.89	733.7	29.19	741.4	47.1	8.4	72	NNW			4		8		NW	0.098	2.5	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.48	723.4	29.37	746.0	44.1	6.7	88	S			1		5		W	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.19	741.3	29.28	743.8	53.2	11.8	86	W			5				W	0.213	5.4		Lt T. Carré, Director.
Mâcon, Normal School																			M. Galzin, Director
Mirecourt, Normal School	28.02	711.8	29.06	738.2	42.4	5.8	88	NNE			1		kn		SW	0.43	11.		M. Barbier, Director.
Nismes, Normal School	29.19	741.4	29.39	746.6	62.2	16.8	73	SW			1		2		NW	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.35	720.0	29.41	747.1	46.4	8	86	N			1		n	N	N	0.055	1.4		M. Cantier, Director.
Puy de Dome (Summit) Obs	24 37	619.1			30.9	— 0.6	100	W			10		10			0.571	14.5	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.36	745.6	29.39	746.4	54.5	12.5	79	W			2		8	W	W	0.24	6.	¾ covered	Lt. Decante, Director.
Rouen, Normal School	28.96	735.6	29.04	737.7	46.4	8.0	73	W			4		5	W	W	0.382	9.7	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.12	739.7	29.16	740.7	48.4	9.1	70	WNW			7		8	WNW	WNW	0 035	0.89	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	28.91	734.4	29.08	738.6	45.3	7.4	81	WSW			2				W	0.283	7.2		E. Renou, Director.
Tarbes, Normal School	28.46	722.8	29.54	750.3	46.4	8	59	W			8		10			0.59	15.	Raining	T. Huguet, Director.
Versailles Observatory	28.60	726.3	29.09	738.8	46.8	8.2		NW			3		8			0.354	9.00	Rainy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.65	727.8	29.36	745.6	52.2	11.2	86	SE			1		5		W	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.6	29.97	761.3	75.2	24										0.08	2.		L'Abbé Marchesi.
Lyons, Observatory			29.34	745.2	45.3	7.4	91	SSE			2		10			0.185	4.7	Raining	Mr. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis	24.39	619.6	29.71	754.6	34.7	1 5	84	WSW			4		7		SW	2.917	74.1		M. Cave.
Nice			29.32	744.7	57 6	14.2	57	NW			8		5			0	0	Fair	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	28.80	731.4			45.9	7.7	87	W			6		6		W	0.209	5.3		Marié Davy, Director.
Perpignan	29.46	748.3	29.57	751.0	49.5	9.7	86	NW	15.0	6.7			10			0.992	25.2		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.02	559.2			23.7	— 3.5		SW			8		10			0.913	23.2	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.82	732.0	29.88	759.0	53.4	11.9	71	WNW			6		6			0.571	14.5	Rainy	M. Mercadier Juller.
Tours	29.02	737.1	29.22	742.1	52.5	11.4	56	W			8		8		W	0.031	0.8		Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.01	762.3	30.04	762.9	49.5	9.7	84	ENE	4.7	2.1			10			0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.20	716.2	29.01	736.9	42.1	5.6	66	SW			4		9	SW		0.079	2.0	Raining	Prof. Dr. Hoh.
Berlin	28.98	736.0	29.15	740.4	41.2	5.1	79	E			1		8			0.012	0.3		Prof. Arndt.
Breslau	28.70	729.0	29.22	742.2	42.1	5.6	73	SSE			2		10			0	0		Royal University Obs'y
Carlsruhe	28.65	727.7	29.07	738.3	41.9	5.5	83	SW			3		5	SW		0.134	3.4	Raining	Albert Sens.
Cassel	28.46	722.8	29.04	737.7	42.3	5.7	59	S			3		8	SW		0.056	1.42	Raining	Dr. H. Möhl.
Crefeld	28.78	730.9	28.93	734.9	42.1	5.6	76	SW			3		7			0.28	7.		Director Lose.
Emden					34.0	1.1	100	SE			2		10			0.20	5.		Prof. Prestel.
Frankfort on the Main	28.68	728.4	29.04	737.6	40.6	4.8		S			3		10			0.213	5.4		Physical Society.
Friedrichshafen	27.79	705.9	29.15	740.3	37.4	3.0	90	WNW			4		9	NW		0.244	6.2	Raining	M. Wilhelm.
Hamburg	28.97	735.8	29.04	737.6	33.5	1.0	92	ESE			4		10			0.122	3.1	Snow & fog	Captain F. Hegemann.
Kiel	29.07	738.3	29.08	738.7	31.5	— 0.3	100	E			5		10			0.018	0.46	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.20	741.8	29 29	744.0	24.8	— 4.0	86	NE			5		10			0.157	4.0	Snowing	Prof. E. Luther.
Köslin			29.22	742.1	29.5	— 1.4		E			2		4			0	0		H. Müller.
Leipsic, Observatory	28.73	729.8	29.15	740.4	42.1	5.6	61	SSW			3		6	SW		0.031	0.8		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.30	744.3	29.35	745.4	22.8	— 5.1	71	NE			4		6cs						Skalweit.
Neufahrwasser	29.30	744.2	29.32	744.6	27.7	— 2.4	83	ENE			4		10			0.087	2.2		A. Lothes.
Posen	28.97	735.7	29.26	743.1	35.6	2.0	89	E			2		10			0.016	0.4	Raining	Dr. Magener.
Strassburg (in Alsace)	28.57	725.7	29.12	739.6	43.0	6.1	79	S			4		10	W		0.024	0.61	Raining	Imp. University Observatory.
Stuttgart	28.19	715.9	29.08	738.7	41.0	5.0	76	W			1		9	W		0.295	7.5	Snow & rain	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.64	702.0	29.13	740.0	41.0	5.0	64	SSW	9	4			8ck		S	0.087	2.2		Dr. Van Bebber.
Wustrow, Naval School	29.14	740.1	29.16	740.7	30.2	— 1.0	100	E			4		10			0.059	1.5	Snowing	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.24	742.7	29.67	753.7	57.7	14.3		S			1.0							½ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.94	760.6	30.00	761.9	76.7	24.8	40	WNW	19	8.5			1			0	0	D. clouds	
Deesa	29.42	747.2	29.93	759.3	80.2	26.8	22	NNW	11.2	5.0			0			0	0	Blue sky	
Bombay	29.80	756.9	29.84	757.9	78.3	25.7	70	WNW	12	5.4			0			0	0	Blue sky	
Lahore	29.25	743.0	30.01	762.3	71.2	21.8	36	N	1.2	0.5						0	0	Blue sky	
Belgaum	27.30	693.3	29.81	757.2	80.1	26.7	52	SSW	14	6.3			1			0	0	D. clouds	
Roorkee	29.06	738.1	29.98	761.6	68.4	20.2	45	NW	1	0.4			0			0	0	Blue sky	
Agra	29.42	747.3	30.00	762.0	70.7	21.5	53	N								0	0		
Nagpur	28.86	732.9	29.90	759.4	80.6	27.0	24	Calm	2.3	1.0			2			0	0	Blue sky	
Lucknow	29.60	751.9	29.98	761.6	70.3	21.3	61	Calm	0.2	0.1						0	0	Blue sky	
Allahabad	29.68	753.9	30.00	762.0	68.1	20.1	58	Calm					2	SW		0	0	D. clouds	
Patna	29.79	756.7	29.98	761.5	67.8	19.9	79	Calm	1.0	0.4			8	E	E	0	0	D. clouds	
Hazaribagh	27.91	708.8	29.97	761.3	66.6	19.2	61	WNW	5.2	2.3			2			0	0		
Cuttack	29.82	757.4	29.90	759.6	80.5	26.9	59	SSW	2.1	0.9			0			0	0	Blue sky	
Calcutta (Alipore)	29.91	759.8	29.94	760.4	76.1	24.6	75	NE	4.0	1.8			0			0	0	Blue sky	
Goalpara	29.55	750.5	29.94	760.6	73.3	22.9	56	Calm	1.8	0.8			0			0	0	Blue sky	
Chittagong	29.84	757.8	29.93	760.2	77.6	25.3	69	N	8.1	3.6			0			0	0	Misty	
Sibsagar	29.65	753.2	30.00	762.0	64.0	17.8	77	SE	0.6	0.3			4			0	0	Blue sky	
Jubbulpore	28.64	725.0	29.92	760.0	74.6	23.7	25	ENE	2.5	1.1			3			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,365 ft., or 415.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.83	732.2	29.24	742.7	45.3	7.4	75	Calm	0	0	.....	.....	9	.....	.....	1.287	32.7	.....	Prof. Giovanni Olodig.
Padua	29.13	740.0	29.24	742.8	46.6	8.1	75	SE	3.8	1.7	.....	.....	4	SSW	.....	0.390	9.9	.....	Prof. Dott. Lorenzoni
Milan	28.71	729.1	29.22	742.2	49.5	9.7	39	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.32	719.2	29.23	742.4	48.0	8.9	81	ESE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.32	694.0	29.24	742.6	50.2	10.1	40	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.05	737.9	29.24	742.7	54.5	12.5	55	SE	6.3	2.8	.....	.....	0	.....	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Florence	29.05	737.8	29.30	744.3	52.9	11.6	62	WSW	.....	.....	6	.....	6	.....	.....	0.472	12.0	.....	Cav. F Meucci.
Leghorn	29.19	741.5	29.28	743.6	55.2	12.9	62	W	15.0	6.7	.....	.....	8	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.19	741.5	29.24	742.7	50.0	10.0	70	SW	12.5	5.6	.....	.....	2	.....	.....	0.236	6.0	.....	Prof. Luigi Guidi.
Rome	29.17	740.9	29.34	745.3	58.3	14.6	65	W	13.0	5.8	.....	.....	9	.....	.....	0.087	2.2	.....	Prof. P. S. Ferrari.
Lecce	29.19	741.4	29.44	747.8	55.6	13.1	73	SW	12.5	5.6	.....	.....	10	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.31	744.5	29.50	749.4	57.7	14.3	64	W	.....	.....	4	.....	10	NW	.....	0.031	0.8	.....	Prof. A. Pacinotti.
Cosenza	28.58	726 0	29.47	748.6	50.4	10.2	82	SW	8.1	1.4	.....	.....	10	.....	.....	1.626	41.3	.....	Prof. D. Conti.
Palermo	29.22	742.3	29.48	748.8	61.0	16.1	61	WSW	19.2	8.6	.....	.....	7	W	.....	0.213	5.4	.....	Prof. G. Cacciatore.
Syracuse	29.47	748.5	29.54	750.4	61.7	16.5	59	SW	17.4	7.8	.....	.....	9	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	28.83	732.3	29.39	746.4	54.3	12.4	85	WNW	9.4	4.2	.....	.....	8	.....	.....	0.476	12.1	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.09	764.3	30.11	764.8	47.8	8.8	69	SW	2.4	1.1	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.94	760.5	30.14	765.5	56.3	13.5	58	WSW	0.9	3.1	.....	.....	0	.....	.....	0	0	Clear	S. Takahayashi.
Tokei (Yeddo) Observatory	30.06	762.0	30.07	763.8	42.3	5.7	92	SSE	4.9	2.2	.....	0	0	.....	.....	0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	25.06	636.5	30.22	767.7	34.7	1.5	45	SSW	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. L. Perez.
Leon	24.41	620.2	30.08	764.0	50.5	10.3	64	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Prof. M. Leal
Mexico, Central Obs'y	23.07	585.3	30.17	766.3	46.8	8.2	58	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	42.8	6.0	51	S	.....	.....	4	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E
Tlacotalpam	30.02	762.4	30.03	762.7	68.4	20.2	91	WSW	.....	.....	1	0	0	.....	.....	0	0	Hazy	M. M. Cházaro.
San Luis Potosi	24.13	612.9	30.14	765.6	50.0	10 0	46	NW	.....	.....	.....	c	.....	.....	.....	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	29.84	757.8	29.86	758.5	66.2	19.0	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.35	593.1	30.10	764.6	43.2	6.2	68	NNE	0	0	.....	.....	1	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.39	721.0	30.07	763.7	70.2	21.2	62	E	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.81	757 2	29.94	760.6	65	18.3	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	28.97	735.8	28.97	735.8	41.0	5.0	.....	W	.....	.....	2	.....	.....	.....	.....	0.228	5.8	.....	
Groningen	28.83	732.3	28.89	733.7	35.6	2.0	.....	ESE	.....	.....	1	.....	.....	.....	.....	0.016	0.4	.....	
Helder	28.89	733.8	28.89	733.8	34.2	1.2	.....	NNW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	28.93	734.8	28.93	734.8	37.0	2.8	94	W	.....	.....	3	.....	.....	.....	.....	0.071	1.8	Dull	H. v. d. Brink.
Utrecht	28.88	733.5	28.23	734.7	38.3	3.5	93	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.40	746.8	29.46	748.2	23.4	— 4.8	58	E	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.73	755.1	29.77	756.1	21.9	— 5.6	65	S	4	2	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.56	750.7	29.72	754.8	6.4	—14.2	70	ENE	7	3	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.82	757.4	29.86	758.5	26.2	— 3.2	82	SW	4	2	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.16	766.0	30.35	770.9	58.6	14.8	87	WNW	7.4	3.3	.....	.....	5	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.5	30.07	763.8	55.9	13.3	80	WNW	19.2	8.6	.....	.....	7	WNW	.....	0.122	3.1	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.28	769.2	30.37	771.4	63.7	17.6	72	SW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.1	30.13	765.4	57 0	13.9	87	WNW	17.4	7.8	.....	.....	7	WNW	.....	0.134	3.4	.....	The Staff.
Ponta Delgada, (Azores)	30.33	770.4	30.40	772.2	60.8	16.0	69	W	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h, 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.84	758.0	82 0	27.8	.....	W	.....	.....	2	.....	8	.....	W	2	W	D. Clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, N. 12° 40', W. 18° 23'	.....	.....	29.89	759.3	76.3	24.6	.....	NNE	.....	.....	5	.....	5	.....	.....	6	NE	Foggy	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.74	755.4	84.2	29.0	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.09	764.2	64.8	18.2	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.81	731.8	29.24	742.6	35.1	1.7	96	SW	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.83	732.3	29.26	743.1	33.3	0.7	87	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Astronomical Obs.
Dorpat	29.29	744.0	29.55	750.6	13.5	—10.3	67	NE	4	2	.....	.....	7k;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.56	750.7	29.57	751.1	12.7	—10.7	83	E	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.71	729.2	29.36	745.7	34.2	1.2	100	SSE	4	2	.....	.....	10ks;p	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.45	747.9	29.52	749.7	48.7	9.3	86	S	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.74	755.4	29.76	755.9	51.1	10.6	93	S	9	4	.....	.....	8	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	28.93	734.9	29.50	749.3	28.6	— 1.9	96	S	7	3	.....	.....	10s	.....	.....	.....	.....	Snowing	Meteorological Obs.
Lugan	29.44	747.7	29.64	752.9	48.4	9.1	68	SSE	13	6	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.79	756.7	29.81	757.2	1.0	—17.2	82	ENE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.58	725.9	29.99	761.7	57.7	14.3	37	Calm	0	0	.....	.....	4s	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.17	766 3	30.09	764.2	38.1	3.4	76	SSE	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.46	748.2	29.96	761.0	20.7	— 6.3	84	S	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.72	754.9	30.02	762.4	9.9	—12.3	77	SSE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.01	736.8	30.05	763.3	9.9	—12.3	87	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.84	757.9	30.08	764.0	39.7	4.3	73	W	9	4	.....	.....	9ks	.....	.....	.....	.....	.....	
Tashkend	28.41	721.7	30.11	764.9	56.6	13.6	65	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	
Barnaul	29.48	748.9	30.00	762.1	31.5	— 0.3	90	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Yeniseisk	30.10	764.6	30.44	773.1	—13.9	—25.5	70	E	20	9	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Peking, (China)	30.16	766 1	30.30	769.7	28.8	— 1.8	70	S	7	3	.....	.....	2cs	.....	.....	.....	.....	.....	Marks.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Vladivostock	30.20	767.0	30.30	769.5	8.6	—13.0	76	N	18	8	.....	.....	6ks	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.40	746.7	29.50	749 4	64.9	18.3	44	WNW	12.0	5.34	.....	.....	3k;ks	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.54	750.3	29.60	751.7	60.1	15.6	68	NW	8.7	3.87	.....	.....	10	.....	.....	0.319	8.1	Raining	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.77	679.9	.....	.....	51.8	11.0	86	SW	22.2	9.93	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.62	701.5	.....	.....	52.5	11.4	82	SW	21.6	9.66	.....	0	10	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.68	753.8	29.83	757.6	73.4	23.0	49	S	2.6	1.17	.....	.....	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.88	733.5	29.78	756.3	52.7	11.5	96	W	16.1	7.2	.....	.....	10	.....	.....	0.425	10.8	Raining	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I	30.02	762.4	30.08	764.1	65.2	18.4	85	ESE	6.0	2.7	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.87	758.7	29.92	760.1	80.1	26.7	75	E	0.7	0.3	.....	.....	cs	.....	E	0.71	2.7	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.10	764.4	30.20	767.0	58.6	14.9	83	WNW	20.6	9.2	.....	0	10	.....	W	0.008	0.2	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	77.0	25.0	94	SE	7.2	3.20	.....	4k	8k	SE	SE	0.049	1.25	Cloudy	Leonardo de Tejeda, Ch'f. Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—.	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.4	29.86	758.4	11.8	—11.2	.....	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.70	755.8	29.81	757.1	8.2	—13.2	100	E	.....	.....	4	.....	10	.....	.....	0.197	5.0	.....	
Hernosand	29.68	753.9	29.79	755.2	11.1	—11.6	93	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Stockholm	29.41	746.9	29.68	751.4	8.4	—13.1	88	N	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.47	748.4	29.52	749.9	10.8	— 6.8	84	ESE	.....	.....	6	.....	7	.....	.....	.....	.....	Snowing	
Sub-Series.																			
Upsala	29.58	750.1	29.61	752.0	8.4	—13.1	72	N	11.2	5.0	.....	.....	10	.....	NNE	0.004	0.11	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.86	707.7	29.31	744.5	46.0	7.8	66	SW	.....	.....	6	.....	8	.....	.....	0.157	4.0	Covered	The Observatory.
Zurich	27.63	701.7	29.32	741.6	39.6	4.2	77	W	.....	.....	2	.....	7	.....	.....	1.079	27.4	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —18.5 mm.; Thermometer, +3.9 cent.; Relative Humidity, —5 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.60	751.9	55.9	13.3	55	SSE	13	6.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.48	748.9	55.8	13.2	.....	SW	.....	.....	3	.....	10	.....	.....	0.08	2.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.80	756.9	29.91	759.6	66.0	18.9	63	N	.....	.....	1	.....	1c	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds; and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.07	763.8	30.14	765.5	5.5	—14.7	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	30.20	767.1	30.55	776.0	— 1	—18.3	.....	Calm	0	0	.....	0	5s	.....	SW	0.05	1.3	Clear?	W. R. Bigg.
*Chatham, N B	30.47	773.9	30.54	775.7	—11	—23.9	91	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.44	773.2	30.49	774.4	13	—10.6	93	NW	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.30	769.6	30.52	775.2	1.5	—16.9	100	NE	.....	.....	1	1cs	0	.....	.....	0.01	0.3	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.33	8.4	.....	W. H. Bevis.
*Father Point, Quebec	30.53	775.4	30.55	776.0	1	—17.2	74	NW	25	11.2	.....	2k	2s	NW	NW	0.01	0.3	Fair	J. McWilliams.
Fredericton, N. B	29.49	749.0	30.45	773.4	—14	—25.6	100	S	6	2.7	.....	0	2sk	.....	S	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	30.51	774.9	30.58	776.7	— 2.6	—19.2	100	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.10	741.4	30.42	772.6	8	—13.3	.....	NE	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	James Grant.
*Halifax, N. S	30.30	769.6	30.44	773.2	22	— 5.6	94	N	5	2.2	.....	2cs	2ks	NW	NW	0.020	0.51	Fair	F. Allison, M. A.
Hamilton, Ontario	30.05	763.3	30.45	773.4	15.7	— 9.1	81	NW	.....	.....	1	10cs	0	NW	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.13	765.3	30.59	774.7	5	—15.0	85	N	18	8.0	.....	8cs	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.39	771.9	30.43	772.9	24.6	— 4.4	92	W	4	1.8	.....	3ck	.....	W	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.35	770.9	30.57	776.5	— 2	—18.9	80	NE	17	7.6	.....	0	0	.....	.....	0.01	0.3	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.75	755.6	30.58	776.7	—20	—28.9	71	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.68	753.9	30.53	775.4	2.6	—16.3	85	NE	.....	.....	.....	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.62	752.3	30.38	771.6	14	—10.0	96	NE	13	5.8	.....	10k	0	NW	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	30.37	771.4	30.42	772.6	20.1	— 6.6	.....	NW	6	2.7	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.66	753.4	30.36	771.1	16	— 8.9	90	NE	10	4.5	.....	2c	5ks	SW	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	30.24	768.1	30.61	777.5	— 7	—21.7	80	Calm	.....	.....	0	0	0	.....	.....	0.06	1.5	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	30.13	765.3	30.69	779.5	—26	—32.2	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.19	766.8	30.25	768.3	25	— 3.9	57	E	.....	.....	3	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	30.35	770.9	30.53	775.4	18	—10.6	100	N	4	1.8	.....	0	1k	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.69	754.1	30.51	774.9	— 8	—22.2	92	Calm	0	0	.....	2cs	0	.....	.....	0.01	0.3	Clear	K. Stewart.
Stayner, Ontario	29.53	750 0	30.43	772.9	— 6	—21.1	96	W	1	0.4	.....	5ck	0	SE	.....	0.30	7.6	Fair	R. J. Cole.
Stratford, Ontario	28.99	736.3	30.42	772.6	7.2	—13.8	79	E	5	2.2	.....	2cs	5s	E	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.41	772.4	30.45	773.4	22	— 5.6	87	SW	3	1.3	.....	8c	2ks	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	30.03	762.8	30.45	773.4	15	— 9.4	87	NE	18	8.0	.....	.....	10n	.....	SE	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	30.38	771.6	30.48	774.2	20.5	— 6.0	85	N	6	2.7	.....	2cs	0	.....	.....	0.03	0.8	Fair	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	24.0	— 4.4	87	S	.....	.....	.....	10k?	10s?	.....	.....	0	0	Threatening	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Upper. 0—10.	Cloud. Amount. Lower. 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	30.20	767.1	30.45	773.4	14	—10.0	91	N	6	2.7		2cs	5s	W	W	0	0	Fair	
Alpena, Michigan	29.76	755.9	30.49	774.4	2	—16.7	72	NW	4	1.8		0	0			0	0	Clear	
Atlanta, Georgia	28.85	732.8	30.04	763.0	33	0.6	89	E	18	8.0			10n		Calm	0.45	11.4	Light rain	
Atlantic City, New Jersey	30.34	770.6	30.35	770.9	31	— 0.6	89	NE	20	8.9			10n		Calm	0.06	1.5	Light snow.	
Augusta, Georgia	30.01	762.2	30.20	767.1	36	2.2	90	Calm	0	0			10n		Calm	0.09	2.3	Light rain	
Baltimore, Maryland	30.32	770.1	30.37	771.4	32	0.0	89	E	6	2.7			10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.32	770.1	30.34	770.6	31	— 0.6	100	E	21	9.4			10n		Calm	0.02	0.5	Light snow.	
Bismarck, Dakota	28.31	719.1	30.16	766.1	13	—10.6	100	SW	8	3.6		Haze	8s		Calm	0.07	1.8	Cloudy.	
Boerne, Texas	28.53	724.6	29.86	758.4	47	8.3	92	NW	6	2.7		0	0			0	0	Clear	
Boise City, Idaho	27.14	689.3	30.10	764.5	37	2.8	80	E	12	5.4			10s		Calm	0.01	0.3	Cloudy	
Boston, Massachusetts	30.29	769.4	30.46	773.7	25	— 3.9	62	N	6	2.7			10s;sme		W;Calm	0	0	Cloudy	
Brackettville, Texas	28.96	735.6	30.02	762.5	46	7.8	84	W	8	3.6		Haze	Haze	Calm	Calm	0	0	Hazy	
Breckenridge, Minnesota	29.31	744.5	30.42	772.6	6	—14.4	93	SE	8	3.6			10n		Calm	Inap.	Inap.	Light snow.	
Brownsville, Texas	29.77	756.1	29.84	757.9	66	18.9	95	S	10	4.5			10s		Calm	0	0	Cloudy	
Buffalo, New York	29.61	752.1	30.37	771.4	21	— 6.1	78	NE	10	4.5		8es;ck	Haze	W;SW	Calm	Inap.	Inap.	Fair	
Burkes, Arizona					50	10.0	26	S			1	0	0			0	0	Clear	
Burlington, Vermont	30.21	767.3	30.53	775.4	12	—11.1	80	N	2	0.9			10s		Calm	0	0	Cloudy.	
Cairo, Illinois	29.62	752.3	30.02	762.5	34	1.1	90	N	15	6.7			10n		Calm	0.17	4.3	Heavy snow	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.22	640.6	30.02	762.5	39	3.9	64	N	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					36	2.2	61	N			1	0	0			0	0	Clear	
Campo, California	27.50	698.5	30.07	763.8	32	0.0	79	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.10	764.5	30.11	764.8	42	5.6	100	NE	24	10.7			10s		NE	0.76	19.3	Cloudy	
Cape Henry, Virginia	30.16	766.1	30.18	766.6	37	2.8	90	NE	14	6.3			10s		Calm	0.29	7.4	Cloudy	
Cape Lookout, N. Carolina	30.12	765.0	30.14	765.5	41	5.0	100	N	15	6.7			Fog		N	0.48	12.2	Dense fog	
Cape May, New Jersey	30.28	769.1	30.32	770.1	32	0.0	90	NE	15	6.7			10n		Calm	0.04	1.0	Light snow.	
Castroville, Texas	29.16	741.4	29.91	759.7	50	10.0	79	W	12	5.4		0	0			0	0	Clear	
Charleston, South Carolina	30.12	765.0	30.18	766.6	40	4.4	91	NE	7	3.1			10s		Calm	0.10	2.5	Cloudy	
Cheyenne, Wyoming	28.91	607.3	29.85	758.2	15	— 9.4	82	Calm	0	0		0	0			0.06	1.5	Clear	
Chicago, Illinois	29.52	749.8	30.26	768.6	28	— 2.2	77	NE	12	5.4			10s		Calm	0.14	3.6	Cloudy	
Cincinnati, Ohio	29.43	747.5	30.11	764.8	32	0.0	89	NE	5	2.2			10n		Calm	0.11	2.8	Heavy snow	
Cleveland, Ohio	29.50	749.3	30.28	769.1	22	— 5.6	72	NE	10	4.5			10s		Calm	0.01	0.3	Cloudy	
Coleman City, Texas	28.31	719.1	30.05	763.3	35	1.7	71	N	22	9.8			10s		N	0	0	Cloudy	
Columbus, Ohio	29.27	743.4	30.15	765.8	29	— 1.7	78	NE	7	3.1			Fog		Calm	0.01	0.3	Foggy	
Corpus, Texas	28.17	715.5	29.92	760.0	36	2.2	52	N	6	2.7			10s		N	0	0	Cloudy	
Corsicana, Texas	29.56	750.8	30.05	763.3	40	4.4	82	NW	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Davenport, Iowa	29.59	751.6	30.29	769.4	18	— 7.8	84	NE	6	2.7			10s		Calm	0.23	5.8	Cloudy	
Deadwood, Dakota	25.36	644.1			16	— 8.9	83	N	1	0.4			10s		Calm	0	0	Cloudy	
Decatur, Texas	28.93	734.8	30.15	765.8	35	1.7	92	NW	8	3.6			10s		NW	0.10	2.5	Cloudy	
Denison, Texas	29.19	741.4	30.01	762.2	37	2.8	91	N	8	3.6			10s		Calm	0.05	1.3	Cloudy	
Denver, Colorado	24.80	629.9	30.02	762.5	15	— 9.4	82	S	8	3.6		0	0			0.16	4.1	Clear	
Des Moines, Iowa	29.34	745.2	30.30	769.6	17	— 8.3	83	NE	6	2.7		0	8s		Calm	0.25	6.3	Cloudy	
Detroit, Michigan	29.60	751.8	30.32	770.1	21	— 6.1	86	NE	11	4.9			10s		Calm	0	0	Cloudy	
Dodge City, Kansas	27.54	699.5	29.98	761.5	23	— 5.0	100	N	8	3.6			10n		N	0.02	0.5	Light snow.	
Dubuque, Iowa	29.60	751.8	30.37	771.4	14	—10.0	64	Calm	0	0			10ks		Calm	0.01	0.3	Cloudy	
Duluth, Minnesota	29.72	754.9	30.50	774.7	0	—17.8	70	Calm	0	0		0	5s		Calm	0	0	Fair	
Eagle Pass, Texas	29.19	741.4	29.94	760.5	50	10.0	86	N			2	0	0			0	0	Clear	
Eastport, Maine	30.42	772.6	30.50	774.7	20	— 6.7	70	N	6	2.7		5e	Haze	SW	Calm	0	0	Fair	
Edinburg, Texas					60	18.3	94	Calm			0		10s		Calm	0	0	Cloudy	
El Paso, Texas	26.24	666.5			56	13.3	23	W	6	2.7		0	0			0	0	Clear	
Erie, Pennsylvania	29.53	750.0	30.30	769.6	22	— 5.6	86	NE	5	2.2			10s		Calm	0	0	Cloudy	
Escanaba, Michigan	29.80	756.9	30.57	776.5	—12	—24.4	74	N	8	3.6		0	0			0	0	Clear	
Florence, Arizona	28.56	725.4	30.16	766.1	45	7.2	61	N	3	1.3		0	0			0	0	Clear	
Fort Buford, Dakota	28.05	712.5			10	—12.2	79	S			1	8cs	0	Calm		Inap.	Inap.	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	35	1.7	70	NE	12	5.4		0	0			0	0	Clear	
Fort Davis, Texas	25.22	640.6	30.18	766.6	41	5.0	59	W	2	0.9		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.51	749.5	30.07	763.8	33	0.6	95	N	7	3.1			10n		N	0.30	7.6	Light snow.	
Fort Griffin, Texas	28.84	732.5	30.17	766.3	35	1.7	90	N	8	3.6			10s		Calm	0	0	Cloudy	
Fort Keogh, Montana	27.54	699.5			— 2	—18.5	51	S	6	2.7		0	0			0	0	Clear	
Fort McKavett, Texas	27.89	708.4	29.88	758.9	39	3.9	73	N	8	3.6			10ks		N	0	0	Cloudy	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.88	733.5	30.05	763.3	31	— 0.6	89	N	10	4.5			10s		N	0.03	0.8	Cloudy	
Fort Stevenson, Dakota	28.29	718.6			10	—12.2	79	SW			1		10s		Calm	0.03	0.8	Cloudy	
Fredericksburg, Texas	28.30	718.8	29.87	758.7	51	10.6	59	N	8	3.6			10s		Calm	0	0	Foggy	
Galveston, Texas	29.86	758.4	29.90	759.4	62	16.7	100	S	3	1.3			10s		S	Inap.	Inap.	Cloudy	
Graham, Texas	29.05	737.9	30.15	765.8	35	1.7	90	NW	12	5.4			10s		Calm	0.02	0.5	Cloudy	
Grand Haven, Michigan	29.64	752.8	30.36	771.1	13	—10.6	62	E	11	4.9		0	2s		Calm	0	0	Fair	
Indianapolis, Indiana	29.26	743.2	30.08	764.0	28	— 2.2	88	NE	6	2.7			10n		Calm	0.07	1.8	Light snow.	
Indianola, Texas	29.89	759.2	29.92	760.0	63	17.2	94	W	4	1.8			10s		W	Inap.	Inap.	Cloudy	
Jacksboro, Texas	28.94	735.1	30.12	765.0	35	1.7	90	NW	12	5.4			10s		Calm	0	0	Cloudy	
Jacksonville, Florida	30.12	765.0	30.14	765.5	52	11.1	86	Calm	0	0			10s		Calm	0	0	Cloudy	
Keokuk, Iowa	29.52	749.8	30.18	766.6	25	— 3.9	87	NE	12	5.4			10s		Calm	0.05	1.3	Cloudy	
Key West, Florida	30.07	763.8	30.10	764.5	70	21.1	80	SE	11	4.9		2k	0	SE		0	0	Fair	
Kittyhawk North Carolina	30.12	765.0	30.15	765.8	39	3.9	100	NE	24	10.7			10n		NE	0.58	14.7	Light rain	
Knoxville, Tennessee	28.98	736.1	30.02	762.5	36	2.2	100	E	5	2.2			10n		Calm	1.01	40.9	Light rain	
La Crosse, Wisconsin	29.62	752.3	30.46	773.7	— 2	—18.9	67	N	6	2.7		0	0			0	0	Clear	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	35	1.7	61	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.51	749.5	29.85	758.2	59	15.0	88	NE	8	3.6			10s		Calm	Inap.	Inap.	Cloudy	
Leavenworth, Kansas	29.29	744.0	30.18	766.6	27	— 2.8	88	N	12	5.4			10s			0.01	0.3	Cloudy	
Los Angeles, California	29.77	756.1	30.12	765.0	49·5	9.7	93	Calm	0	0			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.45	748.0	30.04	763.0	32	0.0	79	NE	7	3.1			10n		NE	0.08	2.0	Light snow.	
Lynchburg, Virginia	29.62	752.3	30.34	770.6	32	0.0	79	Calm	0	0			10n		Calm	0.02	0.5	Light snow.	
Madison, Wisconsin	29.29	744.0	30.39	771.9	7	—13.9	77	N	12	5.4		2cs	0	W		0	0	Fair	
Marquette, Michigan	29.75	755.6	30.56	776.2	0	—17.8	70	N	8	3.6		0	5s		Calm	0	0	F	
Mason, Texas	28.41	721.6	30.23	767.8	40	4.4	91	N	16	7.2			10s		Calm	0	0	Cloudy	
Memphis, Tennessee	29.62	752.3	29.95	760.7	38	3.3	100	N	1	0.4			10n		Calm	0.94	23.9	Light rain	
Milwaukee, Wisconsin	29.55	750.6	30.33	770.4	27	— 2.8	88	NE	13	5.8			10s		NE	0	0	Cloudy	
Mobile, Alabama	29.90	759.4	29.94	760.5	60	15.6	100	S	12	5.4			Fog			0.45	11.4	Dense fog	
Montgomery, Alabama	29.71	754.6	29.95	760.7	50	10.0	93	SE	10	4.5			10ks;fg		SE;Calm	0.78	19.8	Threatening	
Morgantown, West Virginia	29.07	738.4	30.17	766.3	34	1.1	61	E	8	3.6			10s		Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.76	603.5	30.12	765.0	0	—17.8	69	NW	30	13.4		5c	0	NW		0	0	Fair	
Nashville, Tennessee	29.39	746.5	29.94	760.5	38	3.3	91	Calm	0	0			10s		Calm	0.52	13.2	Cloudy	
New Haven, Connecticut	30.31	769.9	30.44	773.2	26	— 3.3	88	NE	8	3.6			10s		Calm	0	0	Cloudy	
New London, Connecticut	30.38	771.6	30.44	773.2	30	— 1.1	78	NE	4	1.8			10s		Calm	0	0	Cloudy	
New Orleans, Louisiana	29.86	758.4	29.92	760.0	65	18.3	84	SW	6	2.7		0	0			0.02	0.5	Clear	
Newport, Rhode Island	30.38	771.6	30.43	772.9	30	— 1.1	78	N	4	1.8			10s		Calm	0	0	Cloudy	
New York, New York	30.22	767.6	30.42	772.6	31	— 0.6	89	NE	12	5.4			10n;sm		Calm	Inap.	Inap.	Light snow.	
Norfolk, Virginia	30.15	765.8	30.21	767.3	34	1.1	100	NE	12	5.4			10n		Calm	0.16	4.1	Light rain	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.24	691.9	30.01	762.2	17	— 8.3	83	E	2	0.9	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Olympia, Washington Ter.	29.78	756.4	29.82	757.4	37.2	2.9	90	S	14	6.3	.....	.....	10n	.....	Calm	0.73	18.0	Light rain...	
Omaha, Nebraska	29.08	738.6	30.29	769.4	15	— 9.4	82	N	8	3.6	.....	0	0	.....	.....	0.11	2.5	Clear	
Oswego, New York	30.01	762.2	30.46	773.7	27	— 2.8	76	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pembina, Dakota	29.49	749.0	30.43	772.9	— 2	—18.9	100	SE	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow..	
Philadelphia, Pa	30.30	769.6	30.35	770.9	30	— 1.1	78	NE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.88	733.5	30.74	780.8	44	6.7	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.41	442.0	29.62	752.3	—16	—26.7	39	N	32	14.3	.....	0	0	.....	.....	0.20	5.1	Clear...	
Ploche, Nevada	24.04	610.6	29.81	757.2	30	— 1.1	68	N	4	1.8	.....	0	2s	.....	Calm	0	0	Fair.....	
Pittsburg, Pennsylvania	29.36	745.7	30.22	767.6	27	— 2.8	76	E	4	1.8	.....	.....	10s;sme	.....	Calm;E	0	0	Cloudy	
Port Huron, Michigan	29.64	752.8	30.36	771.1	17	— 8.3	83	NE	9	4.0	.....	.....	10ks	.....	NE	Inap.	nap.	Cloudy.....	
Portland, Maine	30.44	773.2	30.50	774.7	24	— 4.4	74	N	8	3.6	.....	1k	0	Calm	.....	0	0	Clear.....	
Portland, Oregon	29.88	758.9	29.98	761.5	40.2	4.6	91	S	7	3.1	.....	0	8s	.....	S	0.02	0.5	Cloudy.....	
Prescott, Arizona	24.76	628.9	30.12	765.0	27	— 2.8	19	N	2	0.9	.....	0	0	.....	.....	0	0	Clear..... ...	
Pilot Point, Texas	29.02	737.1	29.86	758.4	40	4.4	91	N	5	2.2	.....	.....	10n	.....	N	0.01	0.3	Light rain...	
Punta Rassa, Florida	30.11	764.8	30.13	765.3	61	16.1	94	E	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Red Bluff, California	29.78	756.4	30.15	765.8	42	5.6	91	N	5	2.2	.....	.....	10n	.....	Calm	0.20	5.1	Light rain...	
Rio Grande City, Texas	29.72	754.9	29.94	760.5	60	15.6	94	N	4	1.8	.....	0	Fog	.....	Calm	0	0	Light fog.....	
Rochester, New York	29.75	755.6	30.42	772.6	21	— 6.1	86	SE	6	2.7	.....	5k	Haze	SE	Calm	0	0	Fair.....	
Roseburg, Oregon	29.44	747.8	30.02	762.5	41.0	5.5	96	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	30.05	763.3	30.14	765.5	51.5	10.8	93	SE	6	2.7	.....	.....	10n	.....	Calm	0.10	4.8	Light rain..	
St. Louis, Missouri	29.48	748.8	30.08	764.0	32	0.0	89	N	12	5.4	.....	.....	10n	.....	Calm	0.10	2.5	Light snow..	
St. Marks, Florida	30.10	764.5	30.11	764.8	54	12.2	93	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
St. Paul, Minnesota	29.49	749.0	30.43	772.9	5	—15.0	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.70	652.8	30.03	762.8	26	— 3.3	52	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.25	742.9	29.84	757.9	51	10.6	86	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	30.06	763.5	30.13	765.3	50	10.0	96	N	4	1.8	.....	0	2s	.....	Calm	0	0	Clear.....	
Sandusky, Ohio	29.56	750.8	30.28	769.1	26	— 3.3	88	E	31	13.9	.....	.....	10s	.....	E	0.02	0.5	Cloudy.....	
Sandy Hook, New Jersey	30.36	771.1	30.39	771.9	31	— 0.6	89	E	16	7.2	.....	.....	10n	.....	E	Inap.	Inap.	Light snow..	
San Francisco, California	30.07	763.8	30.13	765.3	52.7	11.5	91	SE	8	3.6	.....	.....	10n	.....	Calm	0.21	5.3	Light rain...	
Santa Fé, New Mexico	23.23	590.0	29.77	756.1	22	— 5.6	58	NW	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Savannah, Georgia	30.07	763.8	30.17	766.3	47	8.3	85	Calm	0	0	.....	.....	10n	.....	Calm	0.03	0.8	Light rain...	
Shreveport, Louisiana	29.74	755.4	29.97	761.2	44	6.7	100	Calm	0	0	.....	.....	10s	.....	.....	0.06	1.5	Cloudy.	
Silver City, New Mexico	24.34	618.2	30.73	780.5	32	0.0	79	W	1	0.4	.....	0	0	.....	.....	0	0	Clear..... ...	
Smithville, North Carolina	30.20	767.1	30.23	767.8	37	2.8	100	N	5	2.2	.....	.....	Fog	.....	.....	0.22	5.6	Foggy.....	
Springfield, Massachusetts	30.32	770.1	30.46	773.7	24	— 4.4	61	N	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy.....	
Stockton, Texas	27.04	686.8	30.04	763.0	30	— 1.1	78	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.41	772.4	30.46	773.7	38	3.3	45	NE	11	4.9	.....	8k	0	W	.....	0	0	Fair.....	
Toledo, Ohio	29.55	750.6	30.29	769.4	23	— 5.0	86	E	24	10.7	.....	.....	10s	.....	E	0.01	0.3	Cloudy.....	
Tucson, Arizona	27.63	701.8	30.18	766.6	41	5.0	56	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.67	753.6	30.20	767.1	19.0	— 7.2	100	Calm	0	0	.....	.....	Fog	.....	W	0	0	Foggy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	28	— 2.2	77	N	.....	.....	4	.....	10s	.....	N	0	0	Cloudy.....	
Uvalde, Texas	29.11	739.1	29.94	760.5	57	13.9	65	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.65	753.1	29.92	760.0	48	8.9	100	N	5	2.2	.....	.....	10n	.....	Calm	0.31	7.9	Light rain...	
Virginia City, Montana	24.14	613.1	29.62	752.3	3	—16.1	73	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear.	
Visalia, California	29.80	756.9	30.17	766.3	51.8	11.0	86	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Washington, D. C.	30.20	767.1	30.32	770.1	31	— 0.6	69	NE	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	40	4.4	48	N	.....	.....	1	5cs	0	Calm	.....	0	0	Fair.....	
Wilmington, N. Carolina	30.11	764.8	30.20	767.1	36	2.2	100	NW	8	3.6	.....	.....	10n	.....	Calm	0.39	9.9	Light rain...	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	33	0.6	89	SW	2	0.9	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy.....	
Wood's Holl, Mass	30.37	771.4	30.41	772.4	31	— 0.6	89	NE	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy.....	
Yankton, Dakota	29.04	737.6	30.48	774.2	9	—12.8	78	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Yuma, Arizona	29.86	758.4	30.03	762.8	53	11.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
Fayetteville, Ark	28.42	721.9	29.89	759.2	30	— 1.1	100	.....	.....	.....	.....	.....	.....	.....	.....	Blank	Blank	Cloudy.....	J. B. Gordon.
Havana, Cuba. W. I	30.04	763.0	30.09	764.3	69	20.6	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.95	760.7	30.03	762.8	79	26.1	.....	NE	1.2	0.5	.....	.....	.....	.....	.....	0	0	Partly cl'dy.	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	80	26.7	87	E	.....	.....	2	4c	5k	E	.....	0	0	Fair.....	O. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.43	772.9	30.49	774.4	—39.0	—39.4	.....	W	13	5.8	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.06	763.5	50	10.0	50.0	10.0	100	SE	6	2.7	.....	.....	10	.....	Calm	0.2	5.	.....	.....	Raining.....	
Navy Yard, Pensacola, Fla.	30.30	769.6	61	16.1	61	16.1	100	SE	15	6.7	.....	.....	8	.....	S	0.41	10.4	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.44	773.2	46	7.8	20	—6.7	85	NNW	4	1.8	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.09‡	764.3‡	.....	.....	46.8	8.2	73	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Panama	29.95	760.7	78	25.6	77	25.0	95	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Alaska. Pichilinque Bay, Mexico	30.07	763.8	70	21.1	63	17.2	63	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky	
Alliance, Villafranca, France.....	29.29‡	744.0‡	.....	.....	60	15.6	34	W	.....	.....	3–5	.....	1	.....	S;W	.....	.....	Light	S	Squally.....	
Ashuelot, Hong-Kong, China.	30.06‡	763.5‡	.....	.....	64	17.8	58	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La.....	29.92	760.0	48	8.9	66	18.9	100	SE	.....	.....	2	.....	5	.....	SE	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.....	30.34	770.6	31	— 0.6	30	— 1.1	100	NNE	5	2.2	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Constitution, N 39° 31′, W. 13° 03′.....	30.15‡	765.8‡	.....	.....	61	16.1	88	WNW	.....	.....	5	.....	9	.....	NW	.....	.....	Smooth	NW	Cloudy.....	
Despatch, Constantinople, Turkey	29.65‡	753.1‡	.....	.....	56	13.3	57	SW	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.38	771.6	38	3.3	38	3.3	81	NNE	20	8.9	.....	.....	0?	.....	NE	0.3	8.	.....	.....	Cloudy?	
Gettysburg, Genoa, Italy	29.59‡	751.6‡	.....	.....	53	11.7	93	SSE	.....	.....	3	.....	2	.....	.....	Blank	Blank	.....	.....	Fair	
Hartford, Montevideo, Uruguay...	29.78	756.4	77	25.0	76	24.4	77	SW	.....	.....	4	.....	8	.....	.....	0.05	1.3	Long	SW	Fair.....	
Lackawana, Panama.....*	29.73‡	755.1‡	.....	.....	77	25.0	91	NW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....†	30.11	764.8	.....	.....	22	— 5.6	72	E	.....	.....	4	.....	10	.....	E	.....	.....	.....	.....	Cloudy.....	
Monocacy. Shanghai, China.....*	30.08‡	764.0‡	.....	.....	50	10.0	45	Calm	.....	.....	0	.....	10	.....	E	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*	30.02‡	762.5‡	.....	.....	41	5.0	100	WSW	.....	.....	1	.....	1	.....	.....	0	0	.....	.....	Misty.....	
New Hampshire, Port Royal, S. C.....	30.19	766.8	44	6.7	44	6.7	92	NE	10	4.5	.....	.....	.....	.....	.....	0.1	3.	.....	.....	Foggy.....	
Onward, Callao, Peru.....†	30.02	762.5	.....	.....	68	20.0	95	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	30.26	768.6	32	0.0	28	— 2.2	??	SE	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	31	— 0.6	79	NE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 30° 10′, W. 101° 50′.....	30.16‡	766.1‡	.....	.....	73	22.8	90	S	2	0.9	.....	.....	8	.....	S	0	0	Smooth	S	Fair.....	
Powhatan, Santa Cruz, W. I	30.13	765.3	77	25.0	77	25.0	73	ENE	.....	.....	2	.....	2	.....	.....	0.5	13.	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.27‡	743.4‡	.....	.....	60	15.6	.....	WSW	.....	.....	4	.....	0	.....	.....	.....	.....	Ground	S	Clear.....	
Ranger. Kobe, Japan.....*	30.08‡	764.0‡	.....	.....	55	12.8	74	Calm	.....	.....	0	.....	2	.....	S	.....	.....	Smooth	.....	Clear.....	
Richmond, Villefranca, France.....	29.28‡	743.7‡	.....	.....	57	13.9	63	WSW	.....	.....	6	.....	2	.....	.....	.....	.....	Mod'ate	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	29.80	756.9	69	20.6	67	19.4	100	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	30.26‡	768.6‡	.....	.....	32	0.0	.....	NE	.....	.....	2	.....	10	.....	.....	0	0	.....	.....	Overcast.....	
St. Louis, League Island, Pa	30.23	767.8	55	12.8	40	4.4	.....	NE	10	4.5	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Supply, N. 21° 49′, W. 39° 27′.....	30.10‡	764.5‡	.....	.....	76	24.4	82	ENE	.....	.....	4	.....	5	.....	ENE	.....	.....	Long	NE	Fair.....	
Trenton Villafranca, France.....	29.27‡	743.4‡	.....	.....	60	15.6	88	SW	.....	.....	2–5	.....	2	.....	S;W	0	0	Mod'ate	S	Squally.....	
Tuscarora, Acapulco, Mexico.....	29.96‡	761.0‡	.....	.....	78	25.6	95	WNW	.....	.....	1–2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.47‡	773.9‡	.....	.....	27	— 2.8	88	NE	1	0.4	.....	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Wyoming, Smyrna, Turkey.....	29.74‡	755.4‡	.....	.....	62	16.7	94	SSE	.....	.....	3–5	.....	8	.....	S	.....	.....	Mod'ate	S	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Berry.
S. S. City of Sydney																			Capt. Dearborn
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 14° 18', W. 92° 41'...†		29.98‡	761.5‡	77	25.0	91	ENE			3		3				Small	N	Hazy	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 17° 12', W. 159° 30'		29.98‡	761.5‡				Var.			1–2				E		Mod'ate	s;wsw	Hazy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Yokohama, Japan		29.98‡	761.5‡	49	9.4	78	SW			1		8		N		Smooth		D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 49° 56', W. 46° 48'		30.58‡	776.7‡	34.2	1.2		NW			5		2		NW	0	4	NW	Clear	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 41° 39', W. 63° 57'		30.45‡	773.4‡	42	5.6		NNE			3		7		N	0	Light	N	Cloudy	Captain Sargent.
S. S. Ohio, N. 53° 25', W. 4° 36'	†	29.05‡	737.9‡	51	10.6		NW			2		10		NW	Blank	Smooth		Cloudy	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nicholas

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian, N. 43° 28', W. 59° 54'		30.47‡	773.9‡	29.5	— 1.4		ENE			2		10cs;k		W		Very light	sw;w	D. clouds	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

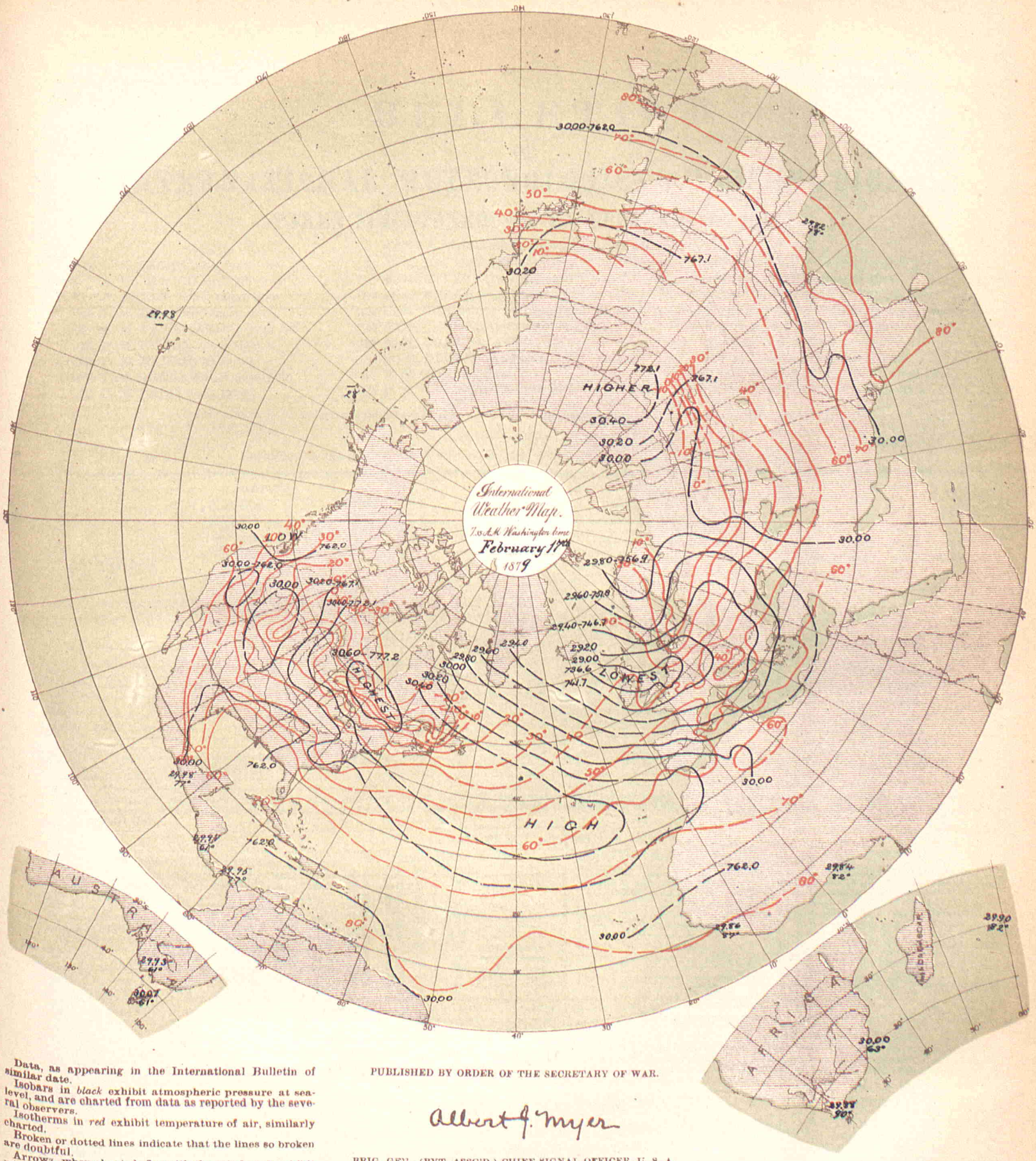
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 18, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.30	769 6	60.8	16.0		NE			3		8			0	0	Very cloudy	
Nemours			30.14	765.6	66.9	19.4	76	WNW			2		2			0	0	Fair	Kesxuche.
Algiers			29.95	760.8	64.0	17.8	68	W			8		0			0	0	Clear	Tourillere.
La Calle			29.88	758.9	60.6	15.9	76	NW			7		8			0.079	2.0	Very cloudy	Foufrede.
Tunis			29.76	755.7	61.6	16.4	70	NW			8		10			0	0	Covered	Jacques.
Sfax			29.97	761.2															Gau.
Saida			30.07	763.7	59.0	15.0	39	W			4		8			0	0	Very cloudy	Herbin.
Tebessa			30.00	762.0	57.0	13.9	45	W			6		8			0	0	Very cloudy	Watrin.
Geriville			30.04	762.9	53 2	11.8	98	NW			3		5			0	0	Cloudy	Brugniaux.
Laghouat			30.09	764.3	60.1	15.6	47	W			4		0			0	0	Clear	Bertrand.
Biskra			29.99	761.8	70.3	21.3	36	NW			5		5			0	0	Fair	Chanvaux.

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.61	726.8	29.17	740.8	38.8	3.8	93	SW			2		10			0.524	13.3	Raining	Prof. Ivan Stoxr.
Cracow, I. R. Observatory	28.39	721.2	29.16	740.6	48.9	9.6	62	W			3		4			0	0		Dr. Wierzbiski
Eperies	28.31	719.2	29.20	741.6	39.6	4.2	87	SE			3		s;fog		N	0.276	7.00		Julius Mikolik.
Gratz	27.95	709.9	29.21	741.9	36.5	2.5	85	SSW			2		10			0.063	1.6		Andreas Rospini.
Hermannstadt	27.85	707.3	29.26	743.2	47.8	8.8	55	NW			2		2			0.098	2.50		Prof. A. Gottschling.
Kremsmünster	27.87	707.8	29.21	742.0	38.3	3.5	75	WNW			3		10			0	0		Prof. O. Wagner.
Lemberg	28.15	715.1	29.18	740.0	43.5	6.4	69	SW			1		6			0	0		Dr. T. Stanecki.
Pola	29.00	736.5	29.11	739.3	51.8	11.0	81	W			5		0			0	0		I.R.Hydrographic Office.
Szathmar	28.83	732.2	29.29	744.0	43.5	6,4	75	NE			3		1			0	0		Julius Csics, S. J.
Szegedin	28.90	734.0	29.17	741.0	50.0	10.0	69	S			2		10			0	0		Karl Stancel.
Trieste	29.03	737.4	29.13	740.0	52.3	11.3	87	W			1		2			0.087	2.2	Clear	P. Busin.
Vienna	28.47	723.1	29.19	741.4	39.9	4.4	78	SE			1		10			0	0		I. R. Central Met. Ob's'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	28.95	735.4	29.15	740.5	37.9	3.3	81	W			5		10		W	0.240	6.10		Royal Observatory
Furnes	29.17	740.9	29.19	741.5	40.3	4.6	81	WNW			4		10			0.051	1.3	Foggy	M. E. de Cae.
Maeseyck	28.98	736.1	29.11	739.3	36.9	2.7	86	SW			2		10			0.161	4.1	Raining	M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.22	742.2	29.32	744.7	30.9	— 0.6	.....	E	24	10.7	.....	.....	10	.....	.....	0.150	3.81	Rain & snow	W. Boswell.
Ardrossan	29.20	741.7	29.22	742.2	35	1.7	.....	ENE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	William McNeil.
Armagh, Observatory	.....	.....	29.22	742.2	38.2	3.4	.....	S	8	3.6	.....	.....	5	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.21	741.9	35.4	1.9	.....	WSW	4	1.8	.....	.....	10	.....	.....	.....	.....	Snowing	John Hartnup.
Bolton, (Sharples)	.....	.....	29.21	741.9	34.3	1.3	.....	N	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	28.84	732.5	29.23	742.4	34.1	1.2	.....	E	.....	.....	3	.....	8	.....	.....	0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.97	761.2	80	26.7	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. J. Surgener, A H. C.
Cambridge, Observatory	.....	.....	29.19	741.4	38.0	3.3	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Sleeting	H. Todd.
Cardington	.....	.....	29.22	742.2	37.0	2.8	.....	NW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	John McLaren.
Chatham, School M. E.	29.08	738.6	29 21	741.9	39.9	4.4	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Corpl. Daly, R. E.
Dartmoor	27.82	706.6	29.31	744.5	35.0	1.7	.....	NW	.....	.....	4	.....	7	.....	.....	.....	.....	Snowing	Alexander Watt.
Donaghadee	29.18	741.2	29.22	742.2	37	2.8	.....	SE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.18	741.2	29.21	741.9	41	5.0	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	Misty	J. Costello.
Falmouth, Observatory	29.14	740.1	29.37	746.0	43.2	6.2	.....	WNW	.....	.....	5	.....	6	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.53	699.2	29.84	757.9	77.8	25.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. J.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.64	752.8	29.88	758.9	87	30.6	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.21	741.9	40	4.4	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.14	765.5	30.19	766.8	59.9	15.5	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.04	737.6	29.25	742 9	33.9	1.1	.....	NNE	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.15	740.4	29.16	740.7	36	2.2	.....	WNW	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.04	737.6	29.21	741.9	40.4	4.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy
Guernsey	29.13	739.9	29.36	745.7	43.3	6.3	.....	NNW	.....	.....	5	.....	5	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S
Helston	29.21	741.9	29.43	747.5	43	6.1	.....	W	.....	.....	4	.....	4k	.....	.....	0.27	6.9	Hail-showers	M. P. Moyle.
Holyhead	29.18	741.2	29.23	742 4	39	3.9	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.08	738.6	29.38	746.2	42.1	5.6	.....	WNW	.....	.....	6	.....	8	.....	.....	Blank	Blank	Squally	J. Fisher.
Kew, Observatory	29.20	741.7	29.23	742.4	41.0	5.0	.....	WNW	13	5.8	.....	.....	9	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	28.96	735.6	29.12	742.2	34.6	1.4	.....	N	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.62	752.3	29.70	754.4	64	17.8	.....	W	.....	.....	1	.....	4k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.19	741.4	29.28	743.7	32	0.0	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.10	764.5	75.5	24.2	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.05	737.9	29.24	742.7	33.4	0.8	.....	Calm	.....	.....	0	.....	10n	.....	.....	0.152	3.86	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.69	728.7	29.22	742.2	37.0	2.8	.....	NNW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.23	742.4	40	4.4	.....	NW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	H. E. Bellamy.
Plymouth	29.24	742.7	29.32	744.7	41.9	5.5	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Hailing	John Merrifield.
Roche's Point	29.26	744.0	29.33	745.0	40	4.4	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.08	738.6	29.26	743.2	42	5.6	.....	WNW	.....	.....	5	.....	4	.....	.....	.....	.....	Showery	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.34	745.2	30.8	— 0.7	.....	SE	5	2.2	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.45	748.0	52.2	11.2	.....	SSW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	28.97	735.8	29.26	743.2	39.2	4.0	.....	N	.....	.....	1	.....	10	.....	.....	0.06	1.5	Overcast	W. F. Cooper.
Silloth Rectory	29.21	741.9	29.24	742.7	37.2	2.9	76	Calm	.....	.....	0	.....	0	.....	.....	0.085	2.16	Blue sky	Francis Redford, A. M.
Stonyhurst Observatory	28.83	732.3	29.24	742.7	35.3	1.8	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	Rev. S. J. Perry.
Stratfield Turgiss	29.02	737 1	29.24	742.7	40.7	4.8	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	C.H.Griffith, F.M.S.
Thurso	29.25	742.9	29.32	744.7	32	0.0	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	John Trotter.
Truro, Royal Institution	.....	.....	29.38	746.2	47	8.3	.....	NW	.....	.....	7	.....	7	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.36	745.7	29.39	746.5	41.0	5.0	.....	WNW	30	13.4	.....	.....	8	.....	.....	Blank	Blank	Gloomy	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	.....	.....	29.94	760.5	77.2	25.1	50	SE	23	10.3	.....	0	4	.....	.....	0	0	Fine	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.84	757.9	61.2	16.2	73	SE	.....	.....	2	.....	7k	.....	.....	0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.29	744.0	34.5	1.4	.....	E	.....	.....	2	.....	10k	.....	.....	.....	.....	Snow-showers	Andrew Gibb.
Mauritius, Observatory	29.72	754.9	29.90	759.5	81.8	27.7	64	E	15.0	6.7	.....	0	4	.....	E	0.05	1.3	Squally	C. Meldrum.
Melbourne, Observatory	29.72	754.9	29.81	757.2	66.0	18.9	72	SE	3	1.3	.....	.....	3	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides	.....	.....	29.35	745.5	39	3.9	.....	SE	.....	.....	4	10	5	SE	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.38	746.2	31	— 0.6	.....	E	.....	.....	4	10	10	E	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway. Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
H. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quaile
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12: the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	62.2	16.8	87	SE	.....	.....	1	.....	1s	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.10	739.0	29.14	740.2	20.7	— 6 3	82	ENE	.....	.....	6	.....	9	.....	.....	.....	.....	.....
Fanöe	29.12	739.7	29.14	740.2	22.8	— 5.1	90	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.26	743.0	29.30	744.1	13.5	—10.3	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.30	746.5	29.43	747.4	35.4	1.9	75	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....
Vestervig	29.08	738.7	29.25	743.0	16.4	— 9.2	81	NE	.....	.....	8	.....	10	.....	.....	.....	.....	Snowing.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.88	733.5	29.43	747.5	38.5	3.6	93	SW	.....	.....	2	.....	10	.....	.....	0.126	3.2	Raining	Collignon, Director.
Amiens, Normal School	29.10	739.0	29.20	741.8	42.4	5.8	73	SSW	.....	.....	3	.....	2	.....	S	0.079	2.0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.47	748.5	29.55	750.5	52.7	11.5	48	W	.....	.....	3	.....	.....	.....	WNW	0	0	Slightly cl'dy	M. Giraud, Director.
Bar-sur-Seine	28.80	731.5	29.37	746.0	38.5	3.6	87	W	.....	.....	1	.....	5	.....	W	0.165	4.2	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.02	737.1	29.31	744.4	40.5	4.5	78	WNW	.....	.....	2	.....	8	.....	WNW	0.138	3.50	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.51	724.2	29.41	747.1	41.2	5.1	76	S	.....	.....	6	.....	8	.....	SW	0.402	10.2	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.63	727.3	29 53	750.0	43.0	6.1	67	W	.....	.....	3	.....	kn	W	W	0.04	1.	.....	M. Mariot, Director.
Bourges, Normal School	29.09	738.9	29.65	753.1	42.1	5.6	94	W	.....	.....	3	.....	10	W	W	0.138	3.5	Hailing	A. Waquet, Director.
Brest, Naval Observatory	29.24	742.6	29.48	748.8	43.2	6.2	73	W	.....	.....	4	.....	10	.....	W	0.069	1.75	.....	M.de Rermaree, Director
Carcassonne, Normal School	29.32	744.8	29.74	755.5	43.5	6.4	91	W	.....	.....	3	.....	5	NW	W	0.858	21.8	Cloudy	September, Director.
Caen, Normal School	29.26	743.1	29.33	745.0	45.3	7.4	77	W	.....	.....	3	.....	5	.....	E	0.205	5.2	Cloudy	M. Lair, Director.
Chartres, Normal School	28.74	730.1	29.32	744.6	41.0	5	93	W	.....	.....	3	.....	9	.....	E	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.02	737.1	29.34	745.2	42.8	6.0	79	W	.....	.....	4	.....	10	W	W	0.236	6.0	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.13	714.6	29.50	749.2	44.6	7.0	46	W	.....	.....	4	.....	10	.....	W	0.291	7.4	.....	Alluard, Director.
Commercy, Normal School	28.41	721.6	29 30	744.1	39.0	3.9	93	W	.....	.....	6	.....	5kn	.....	W	0.47	12.	Cloudy	Dr. Coulet, Director.
Commune de Grêsque*	28.41	721.5	29.55	750.5	46.2	7.9	51	NW	.....	.....	6	.....	5	.....	NW	0.028	0.7	½ covered	M. Kina, Director.
Grenoble, Normal School	28.77	73 .8	29.55	750.5	42.8	6	58	NNW	.....	.....	3	.....	8n	.....	NNW	0.24	6.	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.38	746.2	29.60	751.9	41.0	5.0	87	WNW	.....	.....	3	.....	5	.....	W	0.157	4.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.12	739.7	29.43	747.5	42.8	6.	88	NNW	.....	.....	7	.....	5	NNW	NNW	0.047	1.2	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.54	725.0	29.45	748.0	41.2	5.1	66	S	.....	.....	1	.....	5	.....	W	0.213	5.40	Raining	Baudry, Director.
Lorient, Naval Observatory	29.43	747.6	29.53	750.1	56.5	13.6	39	W	.....	.....	6	.....	.....	NW	W	0.157	4.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galxin, Director
Mirecourt, Normal School	28.19	716.0	29.24	742.8	37.8	3.2	80	E	.....	.....	1	.....	kn	.....	W	0.28	7.	.....	M. Barbier, Director.
Nismes, Normal School	29.32	744.7	29.48	748.8	52.3	11.2	43	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	28.43	722.1	29.50	749.3	45.1	7.3	44	N	.....	.....	3	.....	cn	N	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24 54	623.4	.....	.....	24.1	—4.4	100	W	.....	.....	8	.....	.....	.....	.....	1.256	31.9	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.57	751.1	29.60	751.9	47.7	8.7	78	WNW	.....	.....	6	.....	10	WNW	WNW	0.08	2.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.19	741.5	29.28	743.6	42.6	5.9	78	WNW	.....	.....	8	.....	10	W	W	0.138	3.5	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.37	746.0	29.40	746.8	39.7	4.3	85	WNW	.....	.....	7	.....	8	WNW	WNW	0.372	9.45	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.17	740.9	29.34	745.1	41.4	5.2	69	WNW	.....	.....	3	.....	.....	.....	W	0.039	1.0	.....	E. Renou, Director.
Tarbes, Normal School	28.73	729.8	29.83	757.6	46.4	8	59	SSW	.....	.....	8	.....	10	.....	.....	0.67	17.	Raining	T. Huguet, Director.
Versailles Observatory	28.83	732.3	29.32	744.8	41.5	5.3	.....	NW	.....	.....	3	.....	8	.....	.....	0.017	0.42	Very cloudy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.75	730.3	29.46	748.3	49.1	9.5	97	W	.....	.....	4	.....	2	.....	N	0.35	9.	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.5	29.97	761.2	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchesi.
Lyons Obs'y, Park Station	.....	.....	29.50	749.2	47.3	8.5	40	W	.....	.....	3	.....	4	.....	.....	0.106	2.7	Fair	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.47	621.6	29.79	755.6	34.2	0.2	66	W	.....	.....	3	.....	5	.....	WSW	0	0	.....	M. Cave.
Nice	.....	.....	29.30	745.8	57.9	14.4	83	NW	.....	.....	6	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.07	737.7	.....	.....	40.5	4.7	73	W	.....	.....	4	.....	10	.....	W	0.31	0.8	Covered	Marié Davy, Director.
Perpignan	29.07	753.7	29.78	756.4	44.2	6.8	78	NE	28.0	12.5	.....	.....	4	.....	W	0.547	13.9	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.20	560.4	.....	.....	19.4	— 7.0	.....	NW	.....	.....	6	.....	10	.....	.....	1.386	35.2	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.03	737.3	29.74	755.5	43.9	6.6	100	W	.....	.....	8	.....	9	.....	.....	0.394	10.0	Rainy	M. Mercadier Juller.
Tours	29.25	742.9	29.44	747.9	46.0	7.8	63	WNW	.....	.....	8	.....	5	.....	W	0.146	3.7	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.10	764.4	30.12	765.0	41.4	5.2	98	E	4.7	2.1	.....	.....	0	.....	.....	0.016	0.4	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.24	717.2	29.04	737.6	39.6	4.2	68	W			8		8	W		0.079	2.0	Snowing	Prof. Dr. Hoh.
Berlin	28.86	733.0	29.03	737.4	40.1	4.5	84	SW			1		10			0.154	3.9		Prof. Arndt.
Breslau	28.58	725.9	29.10	739.0	41.7	5.4	56	W			2		6			0.044	1.13		Royal University Obs'y
Carlsruhe	28.80	731.6	29.22	742.2	42.1	5.6	62	SW			4		10	SW		0.079	2.0	Rain & snow	Albert Sens.
Cassel	28.43	722.1	29.02	737.0	39.2	4.0	78	SW			3		8	SW		0.038	0.98	Rain & snow	Dr. H. Möhl.
Crefeld	28.92	734.5	29.08	738.5	36.7	2.6	85	NW			4		9			0.35	9.		Director Lose.
Emden					32.9	0.5	92	NE			2		10			0.28	7.		Prof. Prestel.
Frankfort on the Main	28.78	730.9	29.14	740.1	41.2	5.1		WSW			3		10			0.059	1.5		Physical Society.
Friedrichshafen	27.88	708.0	29.24	742.6	38.5	3.6	74	NW			7		10	NW		0.532	13.5	Snowing	M. Wilhelm.
Hamburg	28.90	734.1	28.97	736.9	35.1	1.7	94	Calm			0		10			0.386	9.8	Hazy	Captain F. Hegemann.
Kiel	28.99	736.4	29.01	736.8	30.9	— 0.6	98	ENE			6		10			0.167	4.26		Prof. G. Karsten.
Königsberg, (Prussia)	28.95	735.3	29.04	737.5	30.0	— 1.1	91	W			3		8			0.173	4.4	Snowing	Prof. E. Luther.
Köslin			29.00	736.6	29.5	— 1.4		NE			2		6			0	0		H. Müller.
Leipsic, Observatory	28.65	727.8	29.08	738.6	39.0	3.9	70	SW			5		10	W		0.035	0.9		Prof. Bruhns, Privy Counselor.
Memel, Naval School	28.90	734.0	28.94	735.1	24.1	— 4.4	88	NNE			1		10n						Skalweit.
Neufahrwasser	28.94	735.0	28.95	735.4	30.6	— 0.8	85	NNW			2		10			0.098	2.5		A. Lothes.
Posen	28.76	730.6	29.05	737.9	40.8	4.6	79	NW			1		9			0.051	1.3	Snowing	Dr. Magener.
Strassburg (in Alsace)	28.74	729.9	29.29	743.9	42.8	6.0	57	W			5		9	W		0.419	10.66		Imp. University Observatory.
Stuttgart	28.26	717.9	29.16	740.6	41.0	5.0	57	W			5		4	W		0.059	1.5	Rain & snow	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.71	703.8	29.24	742.6	34.3	1.3	87	WNW	12	5			6ck		WNW	0.067	1.7		Dr. Van Bebber.
Wustrow, Naval School	29.00	736.5	29.02	737.1	30.7	— 0.7	90	ENE			6		10			0.185	4.7	Snowing	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.20	741.8	29.60	751.7	63.5	17.5		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.90	759.5	29.95	760.8	75.3	24.1	38	NNE	13	5.8			1		SSW	0	0	D clouds	
Deesa	29.42	747.2	29.90	759.3	76.7	24.8	46	ENE	7.7	3.4			9		SSW			Thunder-storm	
Bombay	29.81	757.1	29.84	758.0	78.7	25.9	72	WSW	9	4.0			10	WNW	WSW	0	0	Overcast	
Lahore	29.26	743.2	30.02	762.4	74.8	23.8	23	W	0.9	0.4			2			0	0	Blue sky	
Belgaum	27.33	694.1	29.87	758.6	75.2	24.0	61	W	4	1.8			9		SSW	0	0	D. clouds	
Roorkee	29.08	738.7	30.00	762.0	71.8	22.1	46	Calm	1	0.4			0			0	0	Blue sky	
Agra	29.43	747.4	30.00	762.1	74.3	23.5	43	E								0	0		
Nagpur	28.86	733.0	29.90	759.5	83.6	28.7	25	Calm	2.4	1.1			7	NE		0	0	D. clouds	
Lucknow	29.62	752.2	30.00	761.9	70.5	21.4	70	Calm	0.1	0.04						0	0		
Allahabad	29.69	754.1	30.01	762.2	70.5	21.4	46	Calm	0.7	0.3			1			0	0	Blue sky	
Patna	29.86	758.5	30.05	763.2	72.5	22.5	60	W	0.8	0.4			2	W	W	0	0	D. clouds	
Hazaribagh	27.95	709.9	30.01	762.2	68.0	20.0	54	NE	2.8	1.2			1			0	0		
Cuttack	29.88	758.9	29.96	761.0	81.0	27.2	58	ESE	3.4	1.5			3			0	0	D. clouds	
Calcutta (Alipore)	29.96	761.1	29.99	761.7	75.7	24.3	65	NNE	7.0	3.1			2			0	0	D. clouds	
Goalpara	29.60	751.8	30.00	761.9	75.3	24.1	49	N	3.1	1.4			0			0	0	Blue sky	
Chittagong	29.87	758.6	29.96	761.0	76.8	24.9	48	WNW	7.7	3.4			0			0	0		
Sibsagar	29.67	753.6	30.01	762.3	68.0	20.0	61	Calm	0.6	0.3			2			0	0	Blue sky	
Jubbulpore	28.57	725.6	29.94	760.5	78.2	25.7	29	Calm	2.0	0.9			6	N		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,561 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.73	729.8	29.15	740.3	51.1	10.6	62	N	1.8	0.8	.....	.....	5	.. ..	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.04	737.5	29.15	740.3	46.4	8.0	60	W	17.4	7.8	.....	.....	6	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	28.71	729.1	29.22	742.2	46.8	8.2	81	W	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.31	719.3	29.23	742.5	50.5	10.3	80	NNW	13.0	5.8	.....	.....	3	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.35	694.7	29.26	743.3	46.9	8.3	29	NW	.....	.....	6	.....	2	NW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.03	737.4	29.22	742.2	57.7	14.3	22	Calm	0	0	.....	.....	4	NW	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.07	735.8	29.22	742.3	55.4	13.0	60	W	.....	.....	6	.....	9	.....	.....	0.102	2.6	.....	Cav. F Meucci.
Leghorn	29.15	740.3	29.23	742.4	55.4	13.0	56	W	24.8	11.1	.....	.....	6	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.13	739.9	29.18	741.2	45.7	7.6	91	NW	13.7	6.1	.....	.....	10	NW	.....	0.016	0.4	.....	Prof. Luigi Guidi.
Rome	29.14	740.1	29.31	744.5	59.0	15.0	61	W	21.0	9.4	.....	.....	4	.....	.....	0.047	1.2	.....	Prof. P. S. Ferrari.
Lecce	29.10	739.0	29.35	745.4	51.8	11.0	87	SSW	8.1	3.6	.....	.....	10	S	.....	0.020	0.5	.....	Prof. C. De Giorgi.
Cagliari	29.42	747.3	29.61	752.2	56.8	13.8	48	NW	.....	.....	4	.....	3	W	.....	0.185	4.7	.....	Prof. A. Pacinotti.
Cosenza	28.59	726.2	29.48	748.7	53.6	12.0	78	NE	3.8	1.7	.....	.....	10	.....	.....	1.996	50.7	.....	Prof. D. Conti.
Palermo	29.32	744.8	29.58	751.3	53.4	11.9	82	WSW	7.4	3.3	.....	.....	9	WSW	.....	0.142	3.6	.....	Prof. G. Cacciatore.
Syracuse	29.52	749.8	29.59	751.6	62.2	16.8	59	WSW	15.0	6.7	.....	.....	8	WSW	.....	0.106	2.7	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	28.88	732.3	29.39	746.4	54.1	12.3	73	SE	11.2	5.0	.....	.....	8	.....	.....	0.102	2.6	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.95	760.7	29.97	761.2	43.2	6.2	93	.....	1.7	0.7	.....	.....	10s	.....	.....	0.235	5.97	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.75	755.6	29.96	761.0	44.0	6.7	80	NE	3.5	1.6	.....	.....	0	.....	.....	0.400	10.16	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.81	757.2	29.88	758.9	48.9	9.4	76	SW	6.3	2.8	.....	.....	10s	.....	.....	0.295	7.49	Covered	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.07	636.7	30.20	767.1	40.1	4.5	44	SW	.....	.....	1	.....	1	.....	SW	0	0	Clear	Prof. L. Perez
Leon	24.44	620.9	30.10	764.6	52.0	11.1	71	NW	.....	.....	2	1c	0	.....	.....	0	0	Light fog	Prof. M. Leal
Mexico, Central Obs'y	23.10	586.6	30.24	768.0	46.4	8.0	77	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascallentes)	.....	.....	.....	.....	44.2	6.8	66	Calm	.....	.....	0	8cs	0	.....	.....	0	0	Cloudy	M. V. de Leon, M. E.
Tlacotalpam	30.06	763.6	30.07	763.9	72.3	22.4	87	NW	.....	.....	5	2	7	NW	N	0	0	Threatening	M. M. Cházaro.
San Luis Potosi	24.18	614.2	30.23	767.8	52.0	11.1	65	ESE	.....	.....	1	.....	10	.....	ESE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.07	763.8	30.10	764.5	73.4	23.0	87	N	20.1	9.0	.....	.....	10ks	.....	N	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.41	594.7	30.17	766.2	42.1	5.6	65	N	1.3	0.6	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.37	721.1	30.05	763.2	70.3	21.3	65	ENE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.94	760.5	30.07	763.9	68.5	20.3	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.15	740.5	29.15	740.5	30.0	3.9	.....	NW	.....	.....	.....	.....	.....	.....	.....	0.138	3.5	.....	
Groningen	28.95	735.2	29.00	736.6	33.1	0.6	.....	N	.....	.....	2	.....	.....	.....	.....	0.055	1.4	.....	
Helder	29.08	738.7	29.08	738.7	33.6	0.9	.....	NNW	.....	.....	3	.....	.....	.....	.....	0.079	2.0	.....	
Hellevoetsluis	29.10	739.2	29.10	739.2	36.9	2.7	91	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.04	737.5	29.08	738.7	37.4	3.0	91	WNW	.....	.....	3	.....	8	.....	.....	0.130	3.3	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.38	746.3	29.44	747.7	21.2	— 6.0	54	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.50	749.2	29.54	750.2	24.1	— 4.4	73	SE	9	4	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.34	745.2	29.50	749.2	12.9	—10.6	63	NE	9	4	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.63	752.7	29.68	753.8	32.7	0.4	82	E	20	9	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.21	767.2	30.40	772.1	55.8	13.2	93	Calm	0	0	.....	.....	7	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.5	30.19	766.8	55.0	12.8	61	WNW	13.7	6.1	.....	.....	8	WNW	.....	0.118	3.0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.26	768.6	30.34	770.6	68.0	17 2	59	SW	2.5	1.1	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.89	759.2	30.25	768.4	58.1	13.4	52	NNW	18.6	8.3	.....	.....	7	.....	.....	0.028	0.7	.....	The Staff.
Ponta Delgada, (Azores)	30.32	770.2	30.39	772.0	64.4	18.0	74	W	5.6	2.5	.....	.....	4	.....	.....	0.291	7.4	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.92	759.9	82.8	28.2	.....	WSW	.....	.....	2	.....	5	.....	WSW	2	W	D. clouds.	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, N. 13° 26', W. 20° 49'	.....	.....	29.96	760.9	77.0	25.0	.....	NE	.....	.....	3	.....	9	.....	.....	3	NE	D. clouds.	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.77	756.2	82.8	28.2	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.09	764.3	64.8	18.2	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.67	728.3	29.10	739.1	36.5	2.5	89	SSW	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.62	727.0	29.04	737.7	35.6	2.0	89	SE	11	5	.....	.....	10	.....	.....	.....	.....	Rain & snow	Astronomical Obs.
Dorpat	28.98	736.1	29.23	742.4	25.0	— 3.9	84	E	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.36	745.6	29.37	746.0	27.9	— 2.3	89	E	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.55	725.2	29.20	741.6	34.2	1.2	100	SSW	9	4	.....	.....	10ks;n	.....	.....	.....	.....	Rain and fog	Physical Cabinet.
Nikolaiev	29.22	742.2	29.29	744.0	47.7	8.7	91	S	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.48	748.8	29.50	749.3	53.2	11.8	94	SSW	4	2	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.91	734.2	29.47	748.5	34.3	1.3	94	E	9	4	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.24	742.7	29.45	748.0	37.0	2.8	86	ESE	13	6	.....	.....	9	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.77	756.1	29.79	756.6	14.0	—10.0	90	ESE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt Sseliwerstow.
Tiflis	28.37	720.6	29.77	756.2	56.1	13.4	43	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.82	757.3	29.73	755.2	35.6	2.0	89	E	11	5	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Tzotkowo*	29.37	746.0	29.87	758.7	28.0	— 2.2	90	S	18	8	.....	.....	10	.....	.....	.....	.....	Light snow	Cand. Fatjanow.
Kasan	29.49	749.1	29.77	756.2	30.6	— 0.8	97	SSE	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Physical Cabinet.
Ekaterinburg	28.97	735.9	30.00	761.9	19.2	— 7.1	95	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.78	756.3	30.02	762.4	44.2	6.8	42	NE	9	4	.....	.....	5cs	.....	.....	.....	.....	.....	
Tashkend	28.54	724.9	30.27	768.8	51.8	11.0	66	Calm	0	0	.....	.....	8	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.28	743.7	29.80	756.8	31.1	— 0.5	85	S	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.97	761.3	30.31	769.8	—15.3	—26.3	67	E	11	5	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.84	757.9	29.98	761.5	27.7	— 2.4	79	Calm	0	0	.....	.....	1c	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.04	763.0	30.14	765.5	14.9	— 9.5	84	Calm	0	0	.....	.....	6c	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.59	751.6	29.70	754.3	57.9	14.4	32	WNW	18.9	8.14	.....	.....	1ks	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.83	757.6	29.89	759.1	52.5	11.4	75	NW	9.7	4.32	.....	.....	10	.....	.....	0.858	21.8	Raining	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.93	684.1	.....	.....	44.6	7.0	75	W	21.4	9.57	.....	.....	2	.....	.....	.....	.....	Slightly cl'dy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.77	705.4	.....	.....	51.4	10.8	51	W	24.6	11.00	.....	0	6	.....	.....	0.020	0.5	Cloudy	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.92	760.0	73 8	23.2	40	SW	3.2	1.42	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.9	30.04	762.9	50.7	10.4	86	NW	19.9	8.9	.....	.....	9	.....	.....	0.398	10.1	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.01	762.2	30.07	763.8	69.0	20.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.7	29.88	759.1	81.5	27.5	81	ESE	0.4	0.2	.....	.....	1s?	.....	E	0	0	Covered ?	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.16	766.0	30.26	768.5	60.6	15.9	81	WNW	14.5	6.5	.....	0	8	.....	W	0.008	0.2	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.96	761.0	30.05	763.3	77.7	25.4	89	E	7.3	3.25	.....	3k	4kn	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f. Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.66	753.9	29.72	754.9	8.2	—13.2		NE			2		10			0	0		
Umea	29.57	751.0	29.62	752.3	5.0	—15.0	100	NE			6		10			0.311	7.9		
Hernosand	29.50	749.3	29.55	750.6	7.2	—13.8	92	NE			4		10			0.087	2.2		
Stockholm	29.14	740.1	29.32	744.6	8.6	—13.0	92	NNE			6		9			0	0		
Wisby	29.32	744.8	29.38	746.3	21 9	— 5.6	96	ENE			8		10			0.028	0.7	Snowing	
Sub-Series.																			
Upsala	29.31	744.4	29.38	746.3	8.6	—13.0	56	NNE	17.7	7.9			10		NE	0.188	4.77		Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.04	712.2	29.51	749.6	38.5	3.6	71	SW			7		7			0.134	3.4	Cloudy	The Observatory.
Zurich	27.71	703.9	29.41	746.9	36.9	2.7	80	W			5		8			0.165	4.2	Snowing	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —13.9 mm.; Thermometer, —0.4 cent.; Relative Humidity, +1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople			29.47	748.6	54.0	12.2	86	SW	11	5.0			8		SW	0.669	17.0		The Observatory.
Fao, Persian Gulf																			
Valona			29.41	747.1	53.8	12.1		SW			3		10			0.51	13.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.76	755.9	29.88	759.0	71.1	21.7	69	SW			3		1s		SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.37	771.4	30.44	773.2	5.0	—15.0	78	NE	5.0	2.2			10n			0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.93	760.2	30.27	768.8	7	—13.9		NE	5	2.2			10n		NE	0.50	12.7	Heavy snow	W. R. Bigg.
*Chatham, N B	30.33	770.4	30.40	772.1	9	—12.8	89	NE	6	2.7			10s		Calm	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.26	768.6	30.31	769.9	11	—11.7	94	NE	12	5.4			10s			0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.03	762.8	30.25	768.3	6.0	—14.4	100	NE			1		10n			0	0	Overcast	James Smith, M. A.
Dalhousie, N. B																			H. A. Johnson.
Esquimault, B. C																0.43	10.9		W. H. Bevis.
*Father Point, Quebec	30.43	772.9	30.45	773.4	—16	—26.7	80	S	5	2.2		5k	2s	W	W	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.28	769.1	30.35	770.9	9.8	—12.8	83	NE	9	4.0			10s			0.17	4.3	Overcast	Prof. Harrison.
*Fort Garry Manitoba	29.27	743 4	30.20	767.1	— 2	—18.9	97	N	8	3.6		0	0			0.040	1.02	Clear	James Stewart.
Granton, Ontario	29.06	738.1	30.27	768 8	8	—13.3		N			1	0	0			0	0	Clear	James Grant.
*Halifax, N. S	30.04	763.0	30.18	766.6	17	— 8.3	97	N	9	4.0			10n			0.110	2.79	Heavy snow	F. Allison, M. A.
Hamilton, Ontario	29.87	758.7	30.28	769.1	13.3	—10.4	94	N			1	10cs	0	N		0.20	5.1	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F																			E. Weedon.
*Kingston, Ontario	29.86	758.4	30.23	767.8	8	—13.3	91	N	17	7.6			10n		N	0.14	3.6	Light snow	S. Woods, M. A.
Little Glace Bay, N. S	30.22	767.6	30.26	768.6	19.2	— 7.1	97	SE	10	4.5			10n			0	0	Overcast	C. H. Rigby.
Moose Factory, Ontario																			J. R. Nason.
*Montreal, Quebec	30.06	763.5	30.28	769.1	6	—14.4	81	NE	20	8.9			10n			0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.67	751.1	30.36	771.1	— 5	—20.6	75	E	6	2.7		Haze	0			0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.40	746.7	30.23	767.8	10.7	—11.8	30	Calm				0	0			0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.48	748.8	30.24	768.1	14	—10.0	100	N	14	6.3			10n		NE	0.21	5.3	Threatening	H. Morgan.
Port Hastings, N. S	30.27	768.8	30.32	770.1	15.7	— 9.1		E	5	2.2						0.30	7.6	Snowing	Peter Grant.
Port Stanley, Ontario	29.53	750.0	30.23	767.8	17	— 8.3	97	NW	8	3.6			8ks		N	0.20	5.1	Light snow	M. Payne.
*Quebec, Quebec	29.98	761.5	30.34	770.6	6	—14.4	100	NE			6		10n		NE	0	0	Threatening	Capt. Ashe, R. N.
*Rockliffe, Ontario	29 91	759.7	30.45	773.4	—15	—26.1	78	W	2	0.9			5s		SW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.87	758.7	29.92	760.0	25	— 3.9	85	NW			1	2k	2ks	W		0.37	9.4	Fair	Dr. Gove.
St. John, N. B	30.00	762 5	30.24	768.1	15	— 9.4	74	NE	8	3.6			10n			0.25	6.3	Light snow	G. Murdock, C. E.
*Saugeen, Ontario	29.54	750.3	30.35	770.9	— 2	—18.9	100	N	9	4.0		2cs	0			0	0	Clear	K. Stewart.
Stayner, Ontario	29.47	748.5	30.34	770.6	3	—16.1	70	N	3	1.3		5c	0	NW		0	0	Fair	R. J. Cole.
Stratford, Ontario	28.84	732.5	30.25	768.3	10.4	—12.0	90	NE	3	1.3		1cs	2s	NE		0.05	1.3	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.31	769.9	30.35	770.9	17	— 8.3	81	NE	6	2.7		10cs	5s		NE	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.64	757.9	30.26	768.6	12	—11.1	95	N	13	5.8			10n		Calm	0.27	6.9	Light snow	Magnetic Observatory.
Windsor, N. S	30.12	765.0	30.22	767.6	15.0	— 9.4	100	E	10	4.5			10n			0.50	12.7	Snowing	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland					16.0	— 8.9	83	NE				10ks	10ns			0.03	0.8	Clearing	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From —	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inch.	Rain-fall or melted snow in the past 24 hours. Millim.	Weather.	Observer.
Albany, New York	29.84	757.9	30.09	764.3	16	— 8.9	100	N	12	5.4			10n		Calm	0.44	11.2	Heavy snow	
Alpena, Michigan	29.66	753.4	30.40	772.1	— 8	—22.2	68	NW	5	2.2		0	0			0	0	Clear.	
Atlanta, Georgia	28.87	733.3	30.06	763.5	34	1.1	90	NW	17	7.6			10s		NW	1.39	35.3	Cloudy	
Atlantic City, New Jersey	29.95	760.7	29.97	761.2	33	0.6	100	N	14	6.3			10n		Calm	0.30	7.6	Light rain	
Augusta, Georgia	29.84	757.9	30.03	762.8	40	4.4	91	N	4	1.8		0	8s		NW	0.15	3.8	Clearing	
Baltimore, Maryland	30.00	762.0	30.05	763.3	31	— 0.6	79	N	5	2.2		5k	2s	NW	NW	0.16	4.1	Fair	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	33	0.6	100	NE	26	11.6			10n		Calm	0.41	10.4	Light rain	
Bismarck, Dakota	28.93	711.9	29.89	759.2	6	—14.4	100	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Boerne, Texas	28.78	731.0	30.18	766.6	30	— 1.1	68	N	2	0.9		0	0			0	0	Clear	
Boise City, Idaho	27.25	692.1	30.21	767.3	34	1.1	79	Calm	0	0			10s		Calm	0.05	1.3	Cloudy	
Boston, Massachusetts	29.86	758.4	30.03	762.8	21	— 6.1	100	N	18	8.0			10n		Calm	0.29	7.4	Light snow	
Brackettville, Texas	29.08	738.6	30.17	766.3	33	0.6	79	Calm	0	0		Haze	Haze	Calm	Calm	0	0	Hazy	
Breckenridge, Minnesota	28.96	735.6	30.02	762.5	18	— 7.8	92	SE	14	6.3			10s		Calm	0.05	1.3	Cloudy	
Brownsville, Texas	30.18	766.6	30.25	768.3	44	6.7	92	N	4	1.8		0	2s		Calm	0	0	Clear	
Buffalo, New York	29.42	747.2	30.18	766.6	17.5	— 8.1	92	N	12	5.4			10n		NE	0.35	8.9	Light snow	
Burkes, Arizona					47	8.3	8	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.93	760.2	30.26	768.6	4.5	—15.3	88	N	12	5.4			10n		W	0.04	1.0	Heavy snow	
Cairo, Illinois	29.90	759.4	30.32	770.1	32	0.0	79	N	8	3.6			10s		N	0.05	1.3	Cloudy	
Camp Apache, Arizona																			
Camp Grant, Arizona	25.24	641.1	30.04	763.0	52	11.1	35	N	4	1.8		0	0			0	0	Clear	
Camp Verde, Arizona					34	1.1	61	W			1	0	0			0	0	Clear	
Camp, California	27.45	697.2	30.02	762.5	34	1.1	79	E	4	1.8		0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.03	762.8	43	6.1	100	N	7	3.1			10n		N	0.09	2.3	Light rain	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	34	1.1	100	NW	14	6.3			10n		NW	0.72	18.3	Light rain	
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	46	7.8	92	N	13	5.8			10s		NW	0	0	Threatening	
Cape May, New Jersey	29.94	760.5	29.97	761.2	33	0.6	90	NW	19	8.5			10n		Calm	0.61	15.5	Light snow	
Castroville, Texas	29.49	749.0	30.25	768.3	34	1.1	79	E	4	1.8		0	0			0	0	Clear	
Charleston, South Carolina	29.93	760.2	29.99	761.7	49	9.4	85	N	1	0.4			10n		Calm	0.14	3.6	Light rain	
Cheyenne, Wyoming	23.91	607.3	29.55	758.2	22	— 5.6	72	SW	1	0.4		0	0			0	0	Clear	
Chicago, Illinois	29.54	750.3	30.29	769.4	25	— 3.9	87	NE	8	3.6		0	8s		Calm	0	0	Cloudy	
Cincinnati, Ohio	29.58	751.3	30.28	769.1	22	— 5.6	72	NE	6	2.7			10s		Calm	0.30	7.6	Cloudy	
Cleveland, Ohio	29.47	748.5	30.25	768.3	20	— 6.7	70	N	15	6.7		0	10s		Calm	0.11	2.8	Cloudy	
Coleman City, Texas	28.44	722.4	30.24	768.1	23	— 5.0	86	Calm	0	0			2s		Calm	0	0	Fair	
Columbus, Ohio	29.34	745.2	30.23	767.8	23	— 5.0	86	N	8	3.6			10s		Calm	0.04	1.0	Cloudy	
Corpus, Texas	28.27	718.0	30.08	764.0	21	— 6.1	58	N	4	1.8		5c	0	N		0	0	Fair	
Corsicana, Texas	29.52	757.4	30.32	770.1	34	1.1	70	N	3	1.3			10s		N	0	0	Cloudy	
Davenport, Iowa	29.63	752.6	30.34	770.6	10	—12.2	79	NE	4	1.8		5cs	0	Calm		0	0	Fair	
Deadwood, Dakota	25.16	639.0			22	— 5.6	72	S	3	1.3			10s		Calm	0	0	Cloudy	
Decatur, Texas	29.09	738.9	30.36	771.1	28	— 2.2	88	N	3	1.3			10s		N	0	0	Cloudy	
Denison, Texas	29.46	748.3	30.30	769.6	33	0.6	79	N	2	0.9			10s		N	0	0	Cloudy	
Denver, Colorado	24.66	626.4	29.88	758.9	26	— 3.3	75	S	4	1.8		0	0			0	0	Clear	
Des Moines, Iowa	29.28	743.7	30.23	767.8	20	— 6.7	85	Calm	0	0			10n		Calm	0.02	0.5	Light snow	
Detroit, Michigan	29.54	750.3	30.26	768.6	18	— 7.8	84	N	4	1.8		0	0			0.15	3.8	Clear	
Dodge City, Kansas	27.46	697.5	29.92	760.0	18	— 7.8	84	SW	8	3.6		0	0			0.01	0.3	Clear	
Dubuque, Iowa	29.58	751.3	30.36	771.1	8	—13.3	78	Calm	0	0			10s		Calm	0	0	Cloudy	
Duluth, Minnesota	29.49	749.0	30.22	767.6	17	— 8.3	83	Calm	0	0			10s		Calm	0.02	0.5	Cloudy	
Eagle Pass, Texas	29.49	749.0	30.28	769.1	39	3.9	73	NE			1	0	0			0	0	Clear	
Eastport, Maine	30.12	765.0	30.20	767.1	16	— 8.9	100	NE	28	12.5			10n			0.03	0.8	Light snow	
Edinburg, Texas					41	5.0	91	N			1	0	2s		Calm	0	0	Fair	
El Paso, Texas	26.29	667.8			40	4.4	48	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.42	747.2	30.18	766.6	22	— 5.6	100	NE	16	7.2			10n		Calm	0.29	7.4	Light snow	
Escanaba, Michigan	29.67	753.6	30.41	772.4	1	—17.2	71	N	4	1.8		5k	0	N		0	0	Fair	
Florence, Arizona	28.53	724.6	30.13	765.3	42	5.6	42	N	1	0.4		0	0			0	0	Clear	
Fort Buford, Dakota																			
Fort Craig, New Mexico	25.58	649.7	29.65	753.1	26	— 3.3	64	Calm	0	0		0	0			0	0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	39	3.9	48	W	5	2.2		0	0			0	0	Clear	
Fort Gibson, Indian Ter	29.71	754.6	30.29	769.4	26	— 3.3	88	Calm	0	0		0	5ks		N	Inap.	Inap.	Fair	
Fort Griffin, Texas	28.97	735.8	30.36	771.1	20	— 6.7	70	Calm	0	0		0	0			0	0	Clear	
Fort Keogh, Montana	27.31	693.7			12	—11.1	79	NW	9	4.0		0	0			0	0	Clear	
Fort McKavett, Texas	27.95	709.9	29.99	761.7	29	— 1.7	67	SW	1	0.4		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	29.03	737.3	30.21	767.3	28	— 2.2	88	Calm	0	0		0	8s		Calm	0	0	Cloudy	
Fort Stevenson, Dakota	28.15	715.0			4	—15.6	87	SE			1		10s		Calm	0.01	0.3	Cloudy	
Fredericksburg, Texas	28.47	723.1	30.11	764.8	37	2.8	81	Calm	0	0		2cs	0	Calm		0	0	Fair	
Galveston, Texas	30.20	767.1	30.24	768.1	43	6.1	75	N	18	8.0		0	0			0.01	0.3	Clear	
Graham, Texas	29.18	741.2	30.34	770.6	21	— 6.1	86	Calm	0	0		0	0			0	0	Clear	
Grand Haven, Michigan	29.63	752.6	30.35	770.9	7	—13.9	77	E	2	0.9		0	0			0	0	Clear	
Indianapolis, Indiana	29.43	747.5	30.28	769.1	15	— 9.4	73	Calm	0	0		0	0			0.15	3.8	Clear	
Indianola, Texas	30.25	768.3	30.28	769.1	40	4.4	82	N	20	8.9		0	0			0	0	Clear	
Jacksboro, Texas	29.10	739.1	30.32	770.1	25	— 3.9	75	E	1	0.4		5cs	0	Calm		0	0	Fair	
Jacksonville, Florida	30.00	762.0	30.02	762.5	60	15.6	88	S	14	6.3			10s		S	0	0	Cloudy	
Keokuk, Iowa	29.62	752.3	30.28	769.1	24	— 4.4	87	E	4	1.8			10s		Calm	0.01	0.3	Cloudy	
Key West, Florida	30.04	763.0	30.08	764.0	72	22.2	90	SE	6	2.7		1k	1ks;fg	SE	Calm	0	0	Foggy	
Kittyhawk North Carolina	29.98	761.5	30.00	762.0	39	3.9	100	NW	5	2.2		5ck	2s	W	NW	0.56	14.2	Fair	
Knoxville, Tennessee	29.12	739.6	30.17	766.3	32	0.0	84	N	8	3.6			10s		Calm	0.89	22.6	Cloudy	
La Crosse, Wisconsin	29.50	749.3	30.32	770.1	8	—13.3	78	S	1	0.4			10s		Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.12	663.4	30.26	768.6	33	0.6	70	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.86	758.4	30.22	767.6	40	4.4	82	N	3	1.3		0	0			0	0	Clear	
Leavenworth, Kansas	29.33	745.0	30.23	767.8	27	— 2.8	88	S	2	0.9		0	0			0	0	Clear	
Los Angeles, California	29.09	754.1	30.04	763.0	53.2	11.8	90	NE	4	1.8		0	0			0	0	Clear	
Louisville, Kentucky	29.68	753.9	30.28	769.1	23	— 5.0	90	N	2	0.9		0	Sm'e		Calm	0.27	6.9	Smoky	
Lynchburg, Virginia	29.33	745.0	30.05	763.3	28	— 2.2	77	Calm	0	0		2cs	0	Calm		0.38	9.7	Clear	
Madison, Wisconsin	29.25	742.9	30.33	770.4	14	—10.0	64	N	3	1.3		0	5s		Calm	0	0	Fair	
Marquette, Michigan	29.55	750.6	30.32	770.1	15	— 9.4	65	SW	4	1.8		5k	5s	SE	Calm	0	0	Cloudy	
Mason, Texas	28.59	726.2	30.49	774.4	27	— 2.8	88	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.93	760.2	30.27	768.8	35	1.7	80	N	6	2.7			10s		Calm	Inap.	Inap.	Cloudy	
Milwaukee, Wisconsin	29.54	750.3	30.32	770.1	26	— 3.3	88	Calm	0	0			10s		Calm	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.11	764.8	30.15	765.8	44	6.7	76	N	12	5.4			10s		N	0	0	Cloudy	
Montgomery, Alabama	29.91	759.7	30.15	765.8	42	5.6	83	NW	12	5.4			10ks		NW	0.02	0.5	Cloudy	
Morgantown, West Virginia	29.02	737.1	30.12	765.0	35	1.7	70	W	8	3.6			10s		Calm	0.08	2.0	Cloudy	
Mt. Washington, N. H.	28.53	597.6	29.89	759.2	4	—15.6	100	SE	30	13.4			10n		SE	0.31	7.9	Light snow	
Nashville, Tennessee	29.68	753.9	30.24	768.1	32	0.0	89	N	6	2.7			10s			0.22	5.6	Cloudy	
New Haven, Connecticut	29.88	758.9	30.00	762.0	23	— 5.0	93	NE	22	9.8			10n		NE	0.40	10.2	Light snow	
New London, Connecticut	29.92	760.0	29.97	761.2	25	— 3.9	87	NE	12	5.4			10n		N	0.16	4.1	Light snow	
New Orleans, Louisiana	30.08	764.0	30.14	765.5	49	9.4	64	N	14	6.3			10s		N	0	0	Cloudy	
Newport, Rhode Island	29.91	759.7	29.96	761.0	32.5	0.3	100	N	8	3.6			10n		Calm	0.48	12.2	Heavy snow	
New York, New York	29.82	757.4	30.01	762.2	28	— 2.2	88	NE	13	5.8			10s		Calm	0.35	8.9	Cloudy	
Norfolk, Virginia	29.98	761.5	30.04	763.0	33	0.6	100	N	11	4.9			10s		Calm	0.53	13.5	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature.		Barometer: Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather	Observer.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
	nches.	Illmeters.	Inches.	Millmeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	0—10	0—10.	From—	From—	Inches.	Millmeters.		
North Platte, Nebraska	27.08	686.6	29.93	760.2	— 8	—22.2	79	NW	8	3.6		0	0			Inap	Inap.	Clear	
Olympia, Washington Ter.	29.99	761.7	30.03	762.8	38.2	3.4	91	S	7	3.1			10n		Calm	0.17	4.3	Light rain	
Omaha, Nebraska	29.96	760.6	30.12	765.0	27	— 2.8	88	S	8	3.6			10s		S	0	0	Cloudy	
Oswego, New York	29.84	757 9	30.18	766.6	17	— 8.3	83	NE	14	6.3			10n			0.27	6.9	Light snow.	
Pembina, Dakota	29.20	741.7	30.10	764.5	10	—12.2	100	NW	8	3.6			10n		Calm	0.07	1.8	Light snow.	
Philadelphia, Pa	29.94	760.5	29.99	761.7	29	— 1.7	89	NE	11	4.9			10s		NE	0.12	3.0	Cloudy	
Phœnix, Arizona	28.86	733.0	30.73	780.5	42	5.6	74	Calm	0	0		0	0			0	0	Clear	
Pike's Peak, Colorado	17.49	442.2	29.70	754.4	— 1	—18.3	37	NW	56	25.0		2cs	0	Calm		0	0	Clear	
Ploche, Nevada	24.07	611.4	29.84	757.9	36	2.2	45	S	1	0.4		0	2s		SW	0	0	Fair	
Pittsburg, Pennsylvania	29.27	743.4	30.12	765.0	27	— 2.8	88	NW	11	4.9			10s		NW	0.16	4.1	Cloudy	
Port Huron, Michigan	29.54	750.3	30.26	768.6	19	— 7.2	85	N	13	5.8		0	0			0	0	Clear	
Portland, Maine	30.08	764.0	30.14	765.5	20	— 6.7	85	NE	20	8.9			10n		Calm	0.42	10.7	Light snow.	
Portland, Oregon	30.08	764.0	30.18	766.6	41.5	5.3	91	S	7	3.1			10s		Calm	0.10	2.5	Cloudy	
Prescott, Arizona	24.78	629.4	30.14	765.5	30	— 1.1	57	N	1	0.4		0	0			0	0	Clear	
Pilot Point, Texas	29.05	737.9	29.89	759.2	43	6.1	91	SE	12	5.4		5k	5s	S	SE	0.02	0.5	Cloudy	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	68	20.0	84	S	11	4.9		2cs	0	SW		0	0	Clear	
Red Bluff, California	29.85	758 2	30.22	767.6	49	9.4	100	N	1	0.4			10n		Calm	0.12	3.0	Light rain	
Rio Grande City, Texas	30.10	764.5	30.33	770.4	43	6.1	83	Calm	0	0		0	0			0.07	1.8	Clear	
Rochester, New York	29.50	749.3	30.16	766.1	18	— 7.8	84	NE	12	5.4			10n		NE	0.89	22.6	Light snow.	
Roseburg, Oregon	29.60	751.8	30.19	766.8	39.5	4.2	96	W	4	1.8			10s		Calm	0.07	1.8	Cloudy	
Sacramento, California	30.14	765.5	30.32	767.6	50	10.0	97	S	2	0.9		0	2ks		W	0.05	1.3	Fair	
St. Louis, Missouri	29.71	754.6	30.33	770.4	22	— 5.6	86	N	6	2.7		0	0			0.01	0.3	Clear	
St. Marks, Florida	29.98	761.5	29.99	761.7	63	17.2	94	SW	28	12.5			10n		SW	0.31	7.9	Light rain	
St. Paul, Minnesota	29.28	743.7	30.18	766.6	16	— 8.9	74	SE	9	4.0			10s		Calm	0	0	Cloudy	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	41	5.0	57	Calm	0	0			10ks		W	0	0	Cloudy	
San Antonio, Texas	29.57	751.1	30.20	767.1	35	1.7	80	NE	4	1.8		0	0			0	0	Clear	
San Diego, California	29.99	761.7	30.06	763.5	53	11.7	100	NE	3	1.3			Fog			0	0	Foggy	
Sandusky, Ohio	29.54	750.3	30.27	768.8	21	— 6.1	86	N	15	6.7			10n		Calm	0.26	6.6	Light snow.	
Sandy Hook, New Jersey	29.95	760.7	29.98	761.5	27	— 2.8	88	N	27	12.1			10ks		N	0.19	4.8	Cloudy	
San Francisco, California	30.19	766.8	30.26	768.6	52	11.1	93	W	2	0.9			10n		Calm	0.45	11.4	Light rain	
Santa Fé, New Mexico	23.14	687.8	29.68	753.9	24	— 4.4	61	NW	7	3.1		0	0			0	0	Clear	
Savannah, Georgia	29.92	760.0	30.01	762.2	52	11.1	100	N	3	1.3			10n		Calm	Inap	Inap.	Light rain	
Shreveport, Louisiana	30.03	762.8	30.26	768.6	39	3.9	82	N	4	1.8			10s		NE	0	0	Cloudy	
Silver City, New Mexico	24.28	616 7	30.66	778.8	31	— 0.6	79	SW	2	0.9		0	0			0	0	Clear	
Smithville, North Carolina	29.99	761.7	30.03	762.8	45	7.2	100	N	5	2.2			10s		N	0.02	0.5	Threatening	
Springfield, Massachusetts	29.93	760.2	30.06	763.5	23	— 5.0	73	N	8	3.6			10n		N	0.42	10 7	Light snow.	
Stockton, Texas	27.07	687.6	30.07	763.8	32	0.0	79	SW	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	30.03	762.5	30.09	764.3	26	— 3.3	88	NE	32	14.3			10n		NE	0.67	17.0	Heavy snow	
Toledo, Ohio	29.52	749.8	30.26	768.6	21	— 6.1	86	NW	6	2.7			10s		Calm	0.03	0.8	Cloudy	
Tucson, Arizona	27.56	700.0	30.11	764.8	43	6.1	50	S	4	1.8		0	0			0	0	Clear	
Umatilla, Oregon	29.78	756.4	30.30	769.6	30.5	— 0.8	84	N	8	3.6			10s		N	0	0	Cloudy	
Unalashka, Aleutian Islands					26	— 3.3	77	N			4	0	10s			0	0	Cloudy	
Uvalde, Texas	29.39	746.5	30.27	768.8	36	2.2	61	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Mississippi	30.01	762.2	30.28	769.1	39	3.9	82	NE	7	3.1			10s		Calm	0.01	0 3	Cloudy	
Virginia City, Montana	24.09	611.9	29.57	751.1	27	— 2.8	53	W	18	8.0		0	0			0	0	Clear	
Visalia, California	29.82	757.4	30.20	767.1	50.5	10.3	96	Calm	0	0			Fog			0	0	Dense fog	
Washington, D. C.	29.95	760 7	30.07	763.8	28	— 2.2	88	NW	6	2.7			10ks		NW	0.30	7.6	Cloudy	
Wickenburg, Arizona					41	5.0	65	N			1	0	0			0	0	Clear	
Wilmington, N. Carolina	29.92	760.0	30.00	762.0	43	6.1	91	N	4	1.8			10s		Calm	0.07	1.8	Cloudy	
Winnemucca, Nevada	25.72	653.3	30.03	764.0	38	3.3	72	SW	12	5.4		0	8ks		SW	0	0	Cloudy	
Wood's Holl, Mass	29.89	759.2	29.93	760.2	34	1.1	90	NE	12	5.4			10n		NE	0.33	8.4	Light snow.	
Yankton, Dakota	28.72	729.5	30.08	764.0	23.5	— 4.7	80	S	5	2.2		5c	2s	Calm	Calm	0	0	Cloudy	
Yuma, Arizona	29.83	757.7	30.00	762.0	53	11.7	61	W	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.61	726.7	30.11	764.8	27	— 2.8	88									Blank	Blank	Cloudy	J. B. Gordon.
Havana, Cuba, W. I	30.04	763.0	30.09	764.3	72	22.2	85	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	79	26.1		E	8.3	3.7						0	0	Fair	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	80	26.7	82	NE			3	3c	5k	NE		0	0	Fair	O. J. Hering
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.56	776.7	30.64	778.2	—40.5	—40.3		NW	4	1.8		2ck	1s	W	NW	0	0	Fair	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,700 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m., Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,160.7 ft., or 4,318.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,680 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.33 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.90 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.60 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer: As read off. Inches.	Barometer: As read off. Millimeters.	Barometer: Attached Thermometer. Fahrenheit.	Barometer: Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.28	769.1	52	11.1	50	10.0	100	SW	7	3.1	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	30.42	772.6	48	8.9	48	8 9	85	NE	5	2.2	.....	.....	8	.....	NW	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.05	763.3	52	11.1	19	— 7.2	84	NE	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Naval Hospital, Yokohama, Japan.....*	29.89‡	759.2‡	.....	.....	52.5	11.4	63	SW	.....	.....	2	.....	10s	.....	W	0	0	.....	.....	Overcast.....	
Adams. Panama	29.95	760.7	79	26.1	78	25.6	95	NW	.....	.....	2	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Alaska. Pichilinque Bay, Mexico	30.08	764.0	69	20.6	62	16.7	88	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky.....	
Alliance, Villafranca, France.....	29.35‡	745.5‡	.....	.....	58	14.4	23	W	.....	.....	1-3	.....	0	.....	.....	.....	.....	Light	S	Squally.....	
Ashuelot, Hong-Kong, China.	30.01‡	762.2‡	.....	.....	67	19.4	64	W	.....	.....	4	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La.....	30.10	764.5	40	4.4	47	8.3	100	N	.....	.....	4	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	29.90	759.4	29	— 1.7	27	— 2.8	100	NE	6	2.7	.....	.....	10	.....	.....	.....	.....	.....	.....	Light snow.	
Constitution, N 38° 38′, W. 9° 32′.....	30.25‡	768.3‡	.....	.....	56	13.3	94	NW	.....	.....	4	.....	7	.....	NW	.....	.....	Long	NW	Fair.....	
Despatch, Constantinople, Turkey	29.53‡	750.0‡	.....	.....	57	13.9	63	SSW	.....	.....	2	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.12	765.0	67	19.4	36	2.2	90	WNW	14.4	6.5	.....	.....	10	.....	NW	0.62	15.7	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.59‡	751.6‡	.....	.....	56	13.3	94	NW	.....	.....	3	.....	2	.....	N;W	0	0	.....	.....	Fair.....	
Hartford, Montevideo, Uruguay...	29.85	758.2	73	22.8	70	21.1	70	SSE	.....	.....	5	—	10	.....	SSE	0.01	0.3	Mod'ate	SSE	Cloudy.....	
Lackawana, Panama.....*	29.72‡	754.9‡	.....	.....	78	25.6	95	NW	.....	.....	1-2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....†	30.08	763 5	.....	.....	21	— 6.1	86	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China.....*	30.13‡	765.3‡	.....	.....	42	5.6	91	E	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Fair.....	
Monongahela, Yokohama, Japan ....*	29.84‡	757.9‡	.....	.....	50	10.0	93	W	.....	.....	1	.....	10	.....	W	0	0	.....	.....	Hazy.....	
New Hampshire, Port Royal, S. C.....	30.01	762.2	54	12.2	52	11.1	100	NE	.....	.....	4	.....	10	.....	.....	0.02	0.5	.....	.....	Drizzling.....	
Onward, Callao, Peru.....†	30.02	762.5	.....	.....	68	20.0	95	S	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	29.95	760.7	37	2.8	27	— 2.8	??	E	.....	.....	0-1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	28	— 2.2	100	WNW	.....	.....	1	.....	10	.....	ESE	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 32° 30′, W. 100° 25′.....	30.23‡	767.8‡	.....	.....	70	21.1	100	SE	20	8.9	.....	.....	8	.....	SE	0	0	Smooth	S	Cloudy.....	
Powhatan, N. 17° 35′, W. 67° 43′.	30.14	765.5	77	25.0	76	24.4	73	ENE	.....	.....	4	.....	2	.....	.....	0	0	Smooth	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.31‡	744 5‡	.....	.....	60	15.6	29	SSW	.....	.....	4	.....	0	....	.....	.....	.....	Smooth	.....	Clear.....	
Ranger. Kobe, Japan.....*	29.97‡	761.2‡	.....	.....	50	10.0	86	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	Smooth	.....	Rainy.....	
Richmond, Villefranca, France.....	29.31‡	744.5‡	.....	.....	64	17.8	100	W	.....	.....	4	.....	2	.....	W	.....	.....	Long	SW	Clear	
Rio Bravo, Brownsville, Texas.....	30.13	765.3	53	11.7	46	7.2	92	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	30.03‡	762.8‡	.....	.....	30	— 1.1	.....	NW	.....	.....	1	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.92	760.0	60	15.6	32	0.0	.....	NE	10	4.5	.....	.....	10	.....	NE	.....	.....	.....	.....	Snow & sleet	
Supply, N. 21° 53′, W. 41° 05′.....	30.12‡	765.0‡	.....	.....	76	24.4	82	ENE	.....	.....	3	.....	2	.....	ENE	.....	.....	Smooth	.....	Clear.....	
Trenton Villafranca, France.....	29.29‡	744.0‡	.....	.....	60	15.6	100	W	.....	.....	2-5	.....	2	.....	S;W	0	0	Long	S	Squally.....	
Tuscarora. Acapulco, Mexico.....	29.96‡	761.0‡	.....	.....	77	25.0	82	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.05‡	763.3‡	.....	.....	22	— 5.6	72	NE	10	4.5	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Wyoming, Smyrna, Turkey.....	29.61‡	752.1‡	.....	.....	61	—16.1	82	W	.....	.....	2-3	.....	5	.....	W	.....	.....	Smooth	W	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, Honolulu		29.97‡	761.2‡				SE		1–2				SE;W			Mod'ate	NW;E	Light rain	R. C. Ghest, 1st Officer.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 40° 02', W. 69° 49'		29.87‡	758.7‡	34	1.1		E			8		9		NW	Mod'ate	Light	E	Cloudy	Captain Sargent.
S. S. Ohio, Liverpool							Var.			1		10		NE	Blank			Cloudy	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian, Halifax, N. S.		30.27‡	768.8‡	15.5	— 9.2		NNE			5		10s		NNE				Snowing	Capt. W. Richardson.
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

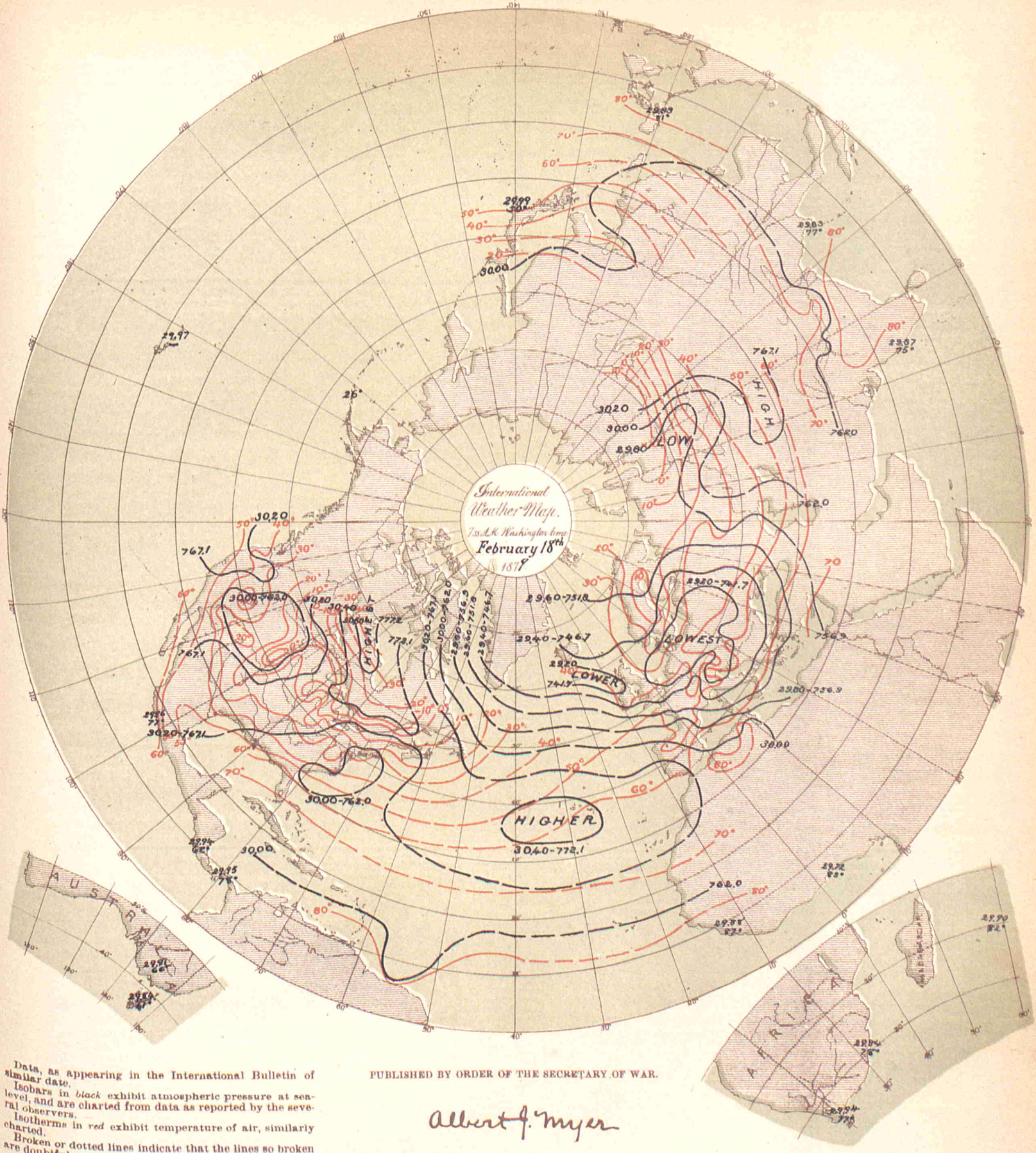
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s; n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D.) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 19, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.24	768.0	60.6	15.9	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy.....	
Nemours	.....	.....	30.16	766.1	67.3	19.6	70	WNW	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Kesxuche.
Algiers	.....	.....	30.07	763.8	60.1	15.6	73	WSW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Tourillere.
La Calle	.....	.....	30.07	763.7	63.1	17.3	61	NW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy.....	Foufrede.
Tunis	.....	.....	30.08	764.0	61.7	16.5	43	NW	.....	.....	7	.....	10	.....	.....	0.020	0.5	Covered.....	Jacques.
Sfax	.....	.....	30.14	765.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	30.12	765.0	62.6	17.0	26	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.13	765.2	55.4	13.0	35	W	.....	.....	6	.....	2	.....	.....	0	0	Fair.....	Watrin.
Geriville	.....	.....	30.11	764.9	56.8	13.8	95	NW	.....	.....	8	.....	8	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	30.17	766.3	59.7	15.4	51	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	30.11	764.9	69.4	20.8	31	NW	.....	.....	3	.....	1	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.95	735.3	29.50	749.3	47.7	8.7	51	SW	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. Ivan Stosir.
Cracow, I. R. Observatory	28.61	726.8	29.39	746.5	38.8	3.8	73	WNW	.....	.....	3	.....	8	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	28.42	721.8	29.30	744.2	40.5	4.7	67	Calm	.....	.....	0	.....	ks;n	.....	S	0.248	6.30	.....	Julius Mikolik.
Gratz	28.28	718.4	29.55	750.5	41.9	5.5	62	NE	.....	.....	2	.....	8	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	27.77	705.3	29.20	741.6	37.2	2.9	85	NW	.....	.....	6	.....	10	.....	.....	0.087	2.20	Snow &rain	Prof. A. Gottschling.
Kremsmünster	28.20	716.2	29.57	751.0	35.2	1.8	67	WNW	.....	.....	1	.....	10	.....	.....	0.118	3.0	.....	Prof. C. Wagner.
Lemberg	28.25	717.5	29.24	742.8	37.0	2.8	84	S	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.45	748.1	29.57	751.0	47.8	8.8	77	WNW	.....	.....	3	.....	3	.....	.....	0.079	2.0	.....	I.R.Hydrographic Office.
Szathmar	28.83	732.2	29.30	744.2	36.4	1.9	96	W	.....	.....	3	.....	10	.....	.....	0.433	11.0	.....	Julius Csics, S. J.
Szegedin	29.12	739.7	29.41	746.9	43.9	6.6	54	N	.....	.....	4	.....	8	.....	.....	0.467	11.85	.....	Karl Stancel.
Trieste	29.48	748.9	29.59	751.5	48.2	9.0	61	W	.....	.....	1	.....	2	.....	.....	0	0	Clear.	P. Busin.
Vienna	28.78	730.9	29.50	749.3	38.8	3.8	60	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.26	743.0	29.46	748.2	38.8	3.8	86	WSW	.....	.....	4	.....	10	.....	W	0.236	6.00	Rain & snow	Royal Observatory
Furnes	29.46	747.2	29.48	748.8	39.9	4.4	82	W	.....	.....	4	.....	8	.....	.....	0.165	4.2	.....	M. E. de Cae.
Maeseyck	29.34	745.2	29.47	748.8	51.6	10.9	53	SW	.....	.....	2	.....	10	.....	.....	0.248	6.3	Snowing.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.24	740.1	29.24	742.7	32.5	0.3		SSW	10	4.5			2			0	0	Blue sky	W. Boswell.
Ardrossan	29.21	741.9	29.22	742.2	34	1.1		NE			1		7					Foggy	William McNeil.
Armagh, Observatory			29.29	744.0	39.7	4.3		SW	12	5.4			2					D. clouds	S. Call.
Bidston, (Liverpool Obs.)			29.34	745.2	40.5	4.7		WSW	15	6.7			2					Blue sky	John Hartnup.
Bolton, (Sharples)			29.36	745.7	37.8	3.2		SW	42	18.8			4					Snowing	Thomas Mackereth.
Bradford, Yorkshire	28.33	734.8	29.33	745.0	39.1	3.9		SW			1		8			0.01	0.3	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.99	761 7	80	26.7		NE			2		3					D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory			29.40	746.7	41.0	5.0		WNW			1		7					Hail & snow	H. Todd.
Cardington			29.41	747.0	43.0	6.1		NW			1		8					Overcast	John McLaren.
Chatham, School M. E.	29.36	745.7	29.49	749.0	38.6	3.7		W			1		6					D. clouds	Corpl. Daly, R. E.
Dartmoor	27.96	710.2	29.44	747.8	36.0	2.2		SW			5		8					Gloomy	Alexander Watt.
Donaghadee	29.23	742.4	29.27	743.4	41	5.0		W			3		5					D. clouds	J. Mac Gowan.
Dover	29.45	748.0	29.47	748.5	43	6.1		W			4		7					¾ clouded	J. Costello.
Falmouth, Observatory	29.24	742.7	29.48	748.8	41.0	5.0		SSW			3		9					Overcast	The Staff.
Fort Napier, (Natal)	27.53	699.2	29.85	758.2	77.0	25.0		SE			3		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.68	753.9	29.91	759.7	88	31.1		NE			1		3					D. clouds	
Galway, Queen's College			29.22	742.2	37	2.8		SE			2		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.14	765.5	30.19	766.8	57.6	14.2		W			4		1					Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.03	737.3	29.24	742.7	31.3	— 0.4		NNE			2							Snowing	D. G. Maclean.
Great Yarmouth	29.42	747.2	29.42	747.2	36	2.2		SSW			2		4					Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.29	744.0	29.46	748.3	43.5	6.4		W			1		7					D. clouds	The Staff, for G. B. Airy
Guernsey	29.34	745.2	29.57	751.1	46	7.8		SW			3		7					Rain & hail	Dr. S. E. Hoskins, F.R.S
Helston	29.42	747.2	29.54	750.3	43	6.1		SW			2		4k			0.4	10.	Showery	M. P. Moyle.
Holyhead	29.26	743.2	29.31	744.5	41	5.0		SW			3		6					D. clouds	John Tilston.
Jersey	29.31	744.5	29.61	752.1	44.1	6.7		SW			3		10					Gloomy	J. Fisher.
Kew, Observatory	29.45	748.0	29.49	749.0	42.2	5.7		W	18	8.0			5					D. clouds	The Meteorological Of.
Leicester, Museum	29.14	740.1	29.39	746.5	41.5	5.3		SW			1		9			Blank	Blank	Overcast	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.82	757.4	29.90	759.4	61	16.1		NW			2		4k					Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.12	739.6	29.21	741.9	30	— 1.1		Calm			0		8					¾ clouded	W. L. Penny.
Nassau, (Bahamas)			30.11	764.8	72.0	22.2		SW?			0?		4					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.19	741.4	29.38	746.2	42.3	5.7		W			4		6k; 8; 9		WNW	0.303	7.70	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.86	733.0	29.39	746.5	40.5	4.6		WSW			5		4					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.44	747.8	39	3.9		NW			2		10			Blank	Blank	Overcast	H. E. Bellamy.
Plymouth	29.42	747.2	29.49	749.0	41.7	5.4		SW			2		10					Overcast	John Merrifield.
Roche's Point	29.28	743.7	29.32	744.7	42	5.6		WSW			4		5					⅗ clouded	W. Kennedy.
Saint Ann's Head	29.23	742.4	29.40	746.7	38	3.3		SSW			3		10					Showery	John C. Walker.
Sandwick Manse, (Orkneys.)			29.20	741.7	32.9	0.5		S	6	2.7			1					Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			29.32	744.7	49.8	9.9		W			4		9					Raining	W. H. Lyne.
Sheffield	29.09	738.9	29.37	746.0	41.1	5.1		S			1		5			0.05	1.3	Snowing	W. F. Cooper.
Silloth Rectory	29.23	742.4	29.26	743.2	39.2	4.0	90	W			5		9			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst, Observatory	28.92	734.6	29.33	745.0	38.6	3.7		WSW			3		10					Snowing	Rev. S. J. Perry.
Stratfield Turgiss	29.27	743.4	29.48	748.0	43.2	6.2		W			2		7					D. clouds	C. H. Griffith, F. M. S.
Thurso	29.14	740.1	29.20	741.7	32	0.0		Calm			0		2					Blue sky	John Trotter.
Truro, Royal Institution			29.45	748.0	46	7.8		SW			7		8					Gloomy	W. Newcombe.
Valencia, Observatory	29.25	742 9	29.28	743.7	42.5	5.8		SSW	31	13.9			10			Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.84	757.9	29.88	758.9	82	27.8	34	SSE	27	12.1		0	1			0	0		The Staff, for D. Gill.
Hobart Town, (Tasmania)			29.52	749.8	59.0	15.0	73	W			2		5k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.27	743.4	31.5	— 0.3		E			1		10s	S		0.02	0.5	Snow-showers	Andrew Gibb.
Mauritius, Observatory	29.69	754.1	29.87	758.8	81.2	27.3	62	E	18.0	8.0		1	2		E	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.49	749.0	29.58	751.3	75.0	23.9	49	WSW	6	2.7			5			0.03	0.8		R. L. J. Ellery.
Monach L't-house, (Hebrides)			29.16	740.7	39	3.9		S			4		10			0.2	5.		J. Youngclause.
North Unst, (Shetland Is.)			29.03	737.3	33	0.6		NW			6	10	10	N					Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Brig Catherine				Capt. Alex. Wilson.
Barque Commewyne				Capt. A. Buchan.
H. S. Gordon Castle				Capt. W. Waring.
Barque Margaret Smith				Capt. D. W. A. Quadlo
Schooner Traveller				Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity Miles per hour.	WIND. Velocity Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'r 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.27	667.2	29.99	761.7	67.1	19.5	81	SE			1		9s		NE	0	0		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.40	746.8	29.45	748.0	16.0	— 8.9	75	NNE			2		10						
Fanöe	29.46	748.2	29.48	748.7	18.5	— 7.5	86	E			2		5						
Godthaab, (Greenland)	29.69	754.2	29.74	755.3	10 2	—12.1	93	W			4		10						Snowing.
Stykkisholm, (Iceland)																			
Thorshavn, (Faröe)	29.15	740.5	29.19	741.4	35.2	1.8	84	N			2		5						Snowing.
Vestervig	29.27	743.4	29.44	747.7	18.7	— 7.4	83	S			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.20	741.6	29.75	755.6	41.7	5.4	94	SW			2		8	NW	W	0.303	7.7	Very cloudy	Collignon, Director.
Amiens, Normal School	29.48	748.8	29.59	751.6	42.4	5.8	74	SSW			1		8		E	0	0	Very cloudy	Bonvallet, Director.
Avignon, Normal School	29.81	757.2	29.89	759.2	54.5	12.5	43	W			2		3km		NW	0	0	Partly cl'dy	M. Giraud, Director.
Bar-sur-Seine	29.14	740.2	29.72	754.9	40.5	4.7	67	WNW			2		8		W	0.087	2.2	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.34	745.3	29.63	752.7	41.2	5.1	71	W			3		8		WNW	0.364	9.25	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.85	732.8	29.77	756.1	39.4	4.1	75	SW			6		10		SW	0.678	17.1	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.00	736.7	29.90	759.5	40.8	4.9	71	W			3		kn	W	W	0	0		M. Marlot, Director.
Bourges, Normal School	29.19	741.3	29.74	755.5	44.1	6.7	75	W			4		10	W	W	0.047	1.2	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.34	745.3	29.59	751.5	45.3	7.4	71	W			3		10		W	0.256	6.50		M. de Rermaree, Director
Carcassonne, Normal School	29.58	751.4	30.00	762.1	50.4	10.2	76	WNW			1		5	NW	WNW	0.661	16.8	Cloudy	September, Director.
Caen, Normal School	29.57	751.1	29.61	752.0	46.0	7.8	64	W			2		2		E	0.12	3.	Slightly cl'dy	M. Lair, Director.
Chartres, Normal School	29.10	739.2	29.67	753.7	46.0	7.8	86	SW			3		1		NE	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.35	745.4	29.67	753.6	42.8	6.0	79	WSW			4		10	S	S	0.157	4.0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.43	722.0	29.80	757.0	43.5	6.4	51	W			4		5		W	0.067	1.7		Alluard, Director.
Commercy, Normal School	28.77	730.8	29.67	753.7	36.1	2.3	96	W			3		10kn		W	0.185	4.7	Light rain	Dr. Coulet, Director.
Commune de Grésque*	28.76	730.5	29.90	759.5	46.2	7.9	57	W			4		5		NW	0	0	½ covered	M. Kina, Director.
Grenoble, Normal School	29.14	740.1	29.93	760.1	42.1	5.6	73	W			1		10n		W	0.049	1.25	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.55	750.5	29.76	756.0	46.8	8.2	86	SW			1		2		SW	0.173	4.4	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.41	746.9	29.72	754.8	42.8	6	88	SW			6		5		W	0.167	4.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.88	733.5	29.90	759.5	40.3	4.6	87	SW			1		5		W	0.024	0.60	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.57	751.1	29.67	753.7	53.6	12.0	45	SSW			5				SW	0.197	5.0		Lt T. Carré, Director.
Mâcon, Normal School																			M. Galzin, Director
Mirecourt, Normal School	28.58	725.8	29.64	752.9	37.2	2.9	83	NE			4		kn		SW	0.28	7.		M. Barbier, Director.
Nismes, Normal School	29.67	753.7	29.90	759 4	52.5	11.4	45	NW			1		0			0	0	Clear	Boyer, Director.
Privas, Normal School	28.74	730.1	29.83	757.7	44.6	7	46	N			1		n	N	N	0	0		M. Cantier, Director.
Puy de Dome (Summit) Obs	24.81	630.1			23.2	— 4.9	100	W			8					0.512	13.0		Alluard, Director.
Rochefort, Naval Obs'y	29.80	757.0	29.84	757.8	47.7	8.7	78	W			1		10	W	W	0 63	16.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.52	749.9	29.61	752.0	44.6	7.0	63	W			2		8	W	W	0.480	12.2	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.58	751.3	29.61	752.1	47.8	8.8	56	SW			4		1	SW	SW	0.243	6.18	Clear	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.45	749.0	29.65	753.2	43.5	6.4	67	WNW			2				W	0.110	2.8		E. Renou, Director.
Tarbes, Normal School	28.91	734.4	30.01	762.2	50.0	10	62	W			2		10			0.24	6.	Raining	T. Huguet, Director.
Versailles Observatory	29.15	740.4	29.64	752.9	42.4	5.8		NW			3		5			0.076	1.94	Cloudy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.12	739.6	29.85	758.2	41.0	5.0	87	SE			1		5		NE	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.98	761.5	30.01	762.2	75.0	24.2										0.31	8.		L'Abbé Marchesi.
Lyons Obs'y, Park Station			29.84	758.0	47.3	8.5	41	W			3		4			0	0	Fair	Mr. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis	24.71	627.7	30.03	762.7	35.6	2.0	70	SW			2		0			0	0	Clear	M. Cave.
Nice			29.76	756.0	55.0	12.8	79	NW			6		0			0	0	Clear	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.37	745.9			43.0	6.1	66	W			4		6		W	0.063	1.6		Marié Davy, Director.
Perpignan	29.90	759.4	30.00	762.1	50.7	10.4	55	NW	22.4	10.0			2		NW	0.150	3.8		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.24	565.0			23.0	— 5.0		NNW			6		6			1.205	30.6	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.27	743.5	29.99	761.8	47.5	8.6	70	W			3		4			0.020	0.5		M. Mercadier Juller.
Tours	29.51	749.5	29.71	754.5	47.7	8.7	55	WSW			3		8		W	0	0		Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	29.92	760.0	29.95	760.6	47.7	8.7	83	S	5.8	2.6			0			0	0	Clear	Marc Deschevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1?	Clouds. Amount. Upper 0–10	Clouds. Amount. Lower 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.63	727.1	29.45	748.1	36.7	2.6	85	W			8		9	W		0.188	3.5	Snow & sleet	Prof. Dr. Hoh.
Berlin	29.28	743.8	29.46	748.3	32.9	0.5	81	NW			1		8			0.126	3.2	....	Prof. Arndt.
Breslau	28.91	734.2	29.43	747.4	33.8	1.0	79	W			4		10			0	0		Royal University Obs'y
Carlsruhe	29.15	740.5	29.58	751.4	39.2	4.0	84	SW			2		10	SW		0.189	4.8	Rain & snow	Albert Senz.
Cassel	28.83	732.3	29.43	747.5	36.5	2.5	91	WNW			3		8	NW		0.021	0.52	Snowing	Dr. H. Möhl.
Crefeld	29.29	744.0	29.45	748.0	34.7	1.5	82	W			2		10			0.08	2.	Raining	Director Lose.
Emden					28.2	— 2.1	95	NE?			0?		0			0.16	4.		Prof. Prestel.
Frankfort on the Main	29.14	740.1	29.60	749.4	39.4	4.1		SW			2		10			0.031	0.8		Physical Society.
Friedrichshafen	28.22	716.8	29.60	751.8	38.8	3.8	73	WSW			10		5	W		0.038	0.9	Snowing	M. Wilhelm.
Hamburg	29.39	746.6	29.47	748.5	24.4	— 4.2	86	NE			1		8cs			0.197	5.0	Snowy	Captain F. Hegemann.
Kiel	29.47	748.4	29.48	748.8	23.2	— 4.9	85	NE			2		10			0.038	0.98	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.30	744.1	29.38	746.2	33.4	0.8	86	E			2		10			0.059	1.5	Snowing	Prof. E. Luther.
Köslin			29.35	745.5	29.3	— 1.5		NE			2		6			0	0		H. Müller.
Leipsic, Observatory	29.08	738.5	29.50	749.4	35.4	1.9	66	SW			2		9	WSW		0.098	2.5		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.34	745.1	29.38	746.2	32.5	0.3	78	SE			1		10s						Skalweit.
Neufahrwasser	29.36	745.7	29.37	746.1	32.5	0.3	85	NNE			1		10			0.087	2.2		A. Lothes.
Posen	29.08	738.7	29.38	746.2	35.5	2.0	89	WNW			6		10			0.028	0.7	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.10	739.2	29.67	753.5	39.9	4.4	77	WSW			4		10	N		0.171	4.35		Imp. University Observatory.
Stuttgart	28.61	726.8	29.52	749.8	39.2	4.0	67	W			1		10			0.102	2.6	Snowing	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.04	712.1	29.28	751.4	33.3	0.7	89	W	11	5			10			0.059	1.5	Light snow	Dr. Van Bebber.
Wustrow, Naval School	29.42	747.3	29.45	747.9	21.7	— 5.7	96	NE			3		10			0.016	0.4	Snowing	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.21	742.0	29.61	752.1	54.1	12.3		W			4.5							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.88	758.8	29.93	760.1	76.8	24.9	23	SSW	23	10.3			4	V		0	0	D. clouds	
Deesa	29.40	746.8	29.89	759.3	63.9	17.7	87	ENE	19.7	8.8			6		S	0.57	14.5	D. clouds	
Bombay	29.80	756.8	29.84	757.8	78.9	26.1	70	W	10	4.5			4		WSW	0	0	D. clouds	
Lahore	29.21	741.9	29.97	761.2	71.5	22.1	27	Calm	1.3	0.6			0			0	0	Blue sky	
Belgaum	27.30	693.4	29.82	757.5	78.2	25.7	56	SSW	4	1.8			8	W	SSW	0	0	D. clouds	
Roorkee	29.05	737.8	29.96	761.4	66.5	19.3	46	SE	1	0.4			5			0	0	D. clouds	
Agra	29.43	747.4	30.01	762.3	65.5	18.8	73	SE								0	0		
Nagpur	28.83	732.3	29.88	758.8	80.6	27.0	43	Calm	1.5	0.7			9		NE	0	0	D clouds	
Lucknow	29.60	751.8	29.98	761.6	70.3	21.3	70	N	0.3	0.1			10			0	0	Overcast	
Allahabad	29.65	753.0	29.96	761.1	70.9	21.6	51	Calm	0.7	0.3			8	W		0	0	D. clouds	
Patna	29.75	755.5	29.93	760.3	72.3	22.4	71	Calm	0.4	0.2			5	NW	NW	0	0	D. clouds	
Hazaribagh	27.88	708.2	29.94	760.3	69.3	20.7	84	NW	3.5	1.6			9			0	0	Gloomy	
Cuttack	29.82	757.4	29.90	759.6	80.0	26.7	57	SSE	1.9	0.8			0			0	0	Blue sky	
Calcutta (Alipore)	29.89	759.3	29.92	759.8	72.6	22.6	63	NNE	2.0	0.9			8	W		0	0	D. clouds	
Goalpara	29.48	748.9	29.68	758.7	77.2	25.1	48	Calm	2.6	1.2			0			0	0	Blue sky	
Chittagong	29.85	758.1	29.94	760.5	72.8	22.7	77	WSW	4.0	1.8			0			0	0		
Sibsagar	29.56	750.8	29.90	759.6	68.0	20.0	69	Calm	1.2	0.5			3			0	0	Blue sky	
Jubbulpore	28.52	724.5	29.91	759.8	71.7	22.1	41	NE	3.7	1.6			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal: the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.5 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.15	740.3	29.56	750.8	47.8	8.8	61	W	0.7	0.3	.....	.....	6	.....	.....	0.079	2.0	.....	Prof. Giovanni Clodig.
Padua	29.48	748.0	29.56	750.8	48.7	9.3	52	W	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.06	738.0	29.58	751.3	50.2	10.1	82	W	.....	.....	4	.....	2	WNW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.71	729.1	29.02	752.3	48.2	9.0	49	NW	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.77	705.4	29.69	754.0	46.0	7.2	17	W	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.46	748.3	29.65	753.2	55.2	12.9	15	W	2 5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.40	746.8	29.66	753.3	50.0	10.0	46	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	Cav. F Meucci
Leghorn	29.57	751.1	29.65	753.2	53.8	12.1	42	W	9.4	4.2	.....	.....	4	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.55	750.6	29.60	751.9	51.6	10.9	39	W	13.0	5.8	.....	.....	4	.....	.....	0.059	1 5	.....	Prof. Luigi Guidi.
Rome	29.63	750.1	29.71	754.5	55.8	13.2	44	WNW	17.4	7.8	.....	.....	6	.....	.....	0.047	1.2	.....	Prof. P S. Ferrari.
Lecce	29.37	746.1	29.63	752.5	49.3	9.6	54	NNW	40.9	18.3	.....	.....	8	NW	.....	0.291	7.4	.....	Prof. C. De Giorgi.
Cagliari	29.77	756.1	29.90	761.0	55.6	13.1	44	NW	.....	.....	2	.....	3	W	.....	0.138	3.5	.....	Prof. A. Pacinotti.
Cosenza	28.87	733.4	29.76	755.9	48.2	9.0	79	SSW	8.7	3.9	.....	.....	9	.....	.....	1.508	38.3	.....	Prof. D. Conti.
Palermo	29.64	752.8	29.89	759.2	56.8	13.8	39	W	26.2	11.7	.....	.....	5	W	.....	0.031	0.8	.....	Prof. G. Cacciatore.
Syracuse	29.81	757.2	29.89	759.1	59.2	15.1	46	WNW	19.9	8.9	.....	.....	6	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.19	741.3	29.74	755.4	53.2	11.8	47	SW	21.7	9.7	.....	.....	6	.....	.....	0.008	0.2	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.94	760.5	29.96	761.0	39.6	4.2	84	N	1.5	0.7	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.78	756.4	29.99	761.7	41.0	5.0	87	Calm	0	0	.....	.....	0	.....	.....	0.020	0.51	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.85	758.2	29.92	759.9	36.9	2.7	87	NNE	4.0	1.8	.....	.....	3s	.....	.....	0.160	4.06	Fair	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.12	638.0	30.24	768.0	44.6	7.0	47	SW	.....	.....	1	.....	3	.....	SW	0	0	Clear	Prof. L. Perez
Leon	24.61	622.6	30.18	766.6	53.4	11.9	69	NW	.....	.....	1	8c	1s	S	.....	0	0	Cloudy	Prof. M. Leal
Mexico, Central Obs'y	23.11	587.0	30.26	768.5	46.4	8.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	50.0	10.0	67	Calm	.....	.....	0	8cs	0	.....	.....	0	0	Cloudy	M. V. de Leon, M. E
Tlacotalpam	30.13	765.3	30.14	765.6	70.2	21.2	91	NE	.....	.....	2	1	3	E	NE	0	0	½ clouded	M. M. Cházaro.
San Luis Potosi	24.18	614 2	30.23	767.8	47.0	8.3	64	ESE	.....	.....	1	.....	10	.....	ESE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.14	765.6	30.17	766.3	73.4	23.0	82	NW	3.8	1.7	.....	.....	9ks	.....	.....	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.46	595.9	30.21	767.4	42.8	6.0	79	N	0	0	.....	.....	.....	.....	.....	0 126	3.20	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.44	722.3	30.12	765.0	70.7	21.5	65	NE	.....	.....	2	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.02	762.4	30.15	765.8	70	21.1	.....	Calm	.....	.....	0	6n	4n	N	N	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 582 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.46	748.3	29.46	748.3	37 0	2.8	.....	ENE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....
Groningen	29.42	747.2	29 47	748.6	30.9	— 0.6	.....	N	.....	.....	1	.....	.....	.....	.....	0.063	1.6	.....	.....
Helder	29.45	747.9	29.45	747.9	31.3	— 0.4	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.43	747.6	29.43	747.6	35.4	1.9	91	ENE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.42	747.3	29.47	748.5	35.1	1.7	69	NW	.....	.....	2	.....	5	.....	.....	0.008	0.2	Cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.19	741.3	29.24	742.7	23.4	— 4.8	76	SSE	25.9	11.6	.....	.....	8	.....	.....	0.157	4.0	Heavy snow	
Brönö	29.21	742.0	29.25	743.0	23.2	— 4.9	93	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.24	742.6	29.39	746.6	8.2	—13.2	76	SW	2	1	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.58	751.3	29.62	752.4	25.2	— 3.8	69	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.20	767.1	30.39	772.0	54.7	12.6	82	W	4.9	2.2	.....	.....	4	.....	.....	0.059	1.5	.....	Dr. J. A. Sampaio.
Campo Major	29.19	741.5	30.23	767.9	54.0	12.2	63	WNW	8.7	3.9	.....	.....	7	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.22	767.5	30.30	769.7	64.6	18.1	61	SW	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.91	759.7	30.28	769.0	54.5	12.5	73	WNW	15.0	6.7	.....	.....	7	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.35	770.8	30.42	772.6	63.3	17.4	59	S	1.8	0.8	.....	.....	5	.....	.....	0.236	6.0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.89	759.2	82.4	28.0	.....	SW	.....	.....	4	.....	10	.....	SW	3	SW	Overcast	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, N. 14° 53', W. 28° 31'	.....	.....	30.02	762.4	77.7	25.4	.....	NE	.....	.....	3	.....	2	.....	.....	3	NE	D. Clouds'	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.80	756.8	83.3	28.5	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	30.05	763.3	67.1	19.5	.....	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.94	735.0	29.37	745.9	35.1	1.7	88	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.93	734.8	29.36	745.6	38.3	3.5	82	Calm	0	0	.....	.....	9	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.19	741.4	29.44	747.7	34.3	1.3	85	SSE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.47	748.4	29.45	748.8	34.5	1.4	91	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.55	725.2	29.20	741.6	33.1	0.6	100	NNE	9	4	.....	.....	10ks;p	.....	.....	.....	.....	Rain & fog	Physical Cabinet.
Nikolaiev	29.04	737.5	29.11	739.3	47.7	8.7	86	S	31	14	.....	.....	7kn	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.34	745.2	29.36	745.7	51.4	10.8	92	SSE	13	6	.....	.....	9	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.92	734.6	29.48	748.9	32.9	0.5	96	SSE	9	4	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.18	741.1	29.38	746.2	50.5	10.3	72	S	4	2	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.89	759.3	29.91	759.8	10.0	—12.2	89	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.35	720.1	29.74	755.3	63.1	17.3	37	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.76	755.9	29.68	753.8	40.3	4.6	90	Calm	0	0	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisgnanow.
Trotkowo*	29.26	743.1	29.74	755.4	29.5	— 1.4	82	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.50	749.4	29.78	756.5	29.1	— 1.6	83	E	4	2	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.00	736.7	30.01	762.2	27.9	— 2.3	92	ENE	2	1	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Nukuss	29.51	749.5	29.74	755.4	54.9	12.7	32	SE	4	2	.....	.....	10s	.....	.....	.....	.....	.....	
Tashkend	28.41	721.5	30.11	764.7	57.6	14.2	49	NE	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.60	751.8	30.14	765.5	11.8	—11.2	83	WNW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.88	759.0	30.21	767.3	— 5.8	—21.0	74	E	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.93	760 2	30.07	763.8	23.4	— 4.8	62	SE	11	5	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blank	Blank	.....	Meteorological Obs.
Vladivostock	30.00	761.9	30.10	764.4	— 4.0	—20.0	74	N	22	10	.....	.....	0	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.5	29.97	761.2	54.7	12.6	43	W	8.7	3.89	.....	.....	3c;cs	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	28.89	750.3	29.95	760.8	55.4	13.0	59	W	6.2	2.78	.....	2	4	SW	.....	0.535	13.6	Almost cov'd	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.05	687.1	.....	.....	43.5	6.4	82	SW	15.0	6.69	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez
Madrid, Royal Observatory	27.84	707.1	.....	.....	51.8	11.0	60	W	17.2	7.67	.....	2	4	SW	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.96	761.0	30.11	764.8	66 7	19.3	48	WSW	2.4	1.06	.....	.....	2	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.13	740.0	30.04	763.0	50.5	10.3	81	W	9.8	4.4	.....	.....	8	.....	.....	0.181	4.6	Almost covd.	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I.	30.03	763.7	30.14	765.4	68.1	20.1	89	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.8	29.85	758.2	81.3	27.4	74	S	8.3	3.7	.....	.....	1s	.....	E	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.17	766.3	30.27	768.9	55.2	12.9	64	NW	5.2	2.3	.....	3	5	W	NW	0	0	.....	Capt. C. Pujazon, B. N. Dir.
San Juan de Porto Rico, W. I.	29.98	761.6	30.08	763.9	75.6	24.2	92	SW	0	0	.....	5ks	3k	SW	SW	0.305	7.75	Cloudy	Leonardo de Tejeda, Ch'f. Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour	Meters per second.	0—10.	Upp'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.56	750.8	29.60	751.8	23.0	— 5.0	.....	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Umea	29.28	743.7	29.33	745.0	31.3	— 0.4	96	ESE	.....	.....	4	.....	10	.....	.....	0.114	2.9	.....	
Hernosand	29.15	740.3	29.20	741.6	25.5	— 3.6	91	E	.....	.....	4	.....	10	.....	.....	0.189	4.8	.....	
Stockholm	29.15	740.3	29.32	744.8	12.7	—10.7	90	W	.....	.....	4	.....	2	.....	.....	0.157	4.0	.....	
Wisby	29.34	745.3	29.40	746.8	20.5	— 6.4	90	WNW	.....	.....	4	.....	7	.....	.....	0.083	2.1	.....	
Sub-Series.																			
Upsala	29.20	741.7	29.28	743.6	11.7	—11.3	71	SW	14.5	6.5	.....	.....	1	.....	SW	0.005	0.12	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.37	720.5	29.83	758.4	33 3	0.7	96	SW	.....	.....	5	.....	10	.....	.....	0.134	3.4	Snowing.....	The Observatory.
Zurich	28.05	712.4	29.75	755.4	37.0	2.8	75	W	.....	.....	5	.....	5	.....	.....	0.039	1.0	Snowing.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.5 mm.; Thermometer, —3.4 cent.; Relative Humidity, +26 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.36	745.7	51.1	10.6	89	SSW	22	10.0	.....	.....	10	.....	SW	0.740	18.8	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.68	753.8	50.5	10.3	.....	NW	.....	.....	3	.....	5	.....	.....	0.51	13.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.79	756.7	29.91	759.7	69.6	20.9	63	SW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.46	773.7	30.53	775.4	9.5	—12.5	70	Calm	0	0	.....	.....	9n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	30.10	764.5	30.44	773.2	— 3	—19.4	.....	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear.....	W. R. Bigg.
*Chatham, N B	30.41	772.4	30.48	774.2	7	—13.9	88	NE	7	3.1	.....	10ck	0	NE	.....	0.03	0.8	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.32	770.1	30.26	768.6	11	—11.7	100	N	15	6.7	.....	.....	10n	.....	.....	0.35	8.9	Light snow..	H. J. Cundall, C. E.
Cornwall, Ontario	30.20	767.1	30.41	772.4	— 7.7	—22.1	100	E	.....	.....	1	1cs	0	.....	.....	0.02	0.5	Clear.	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	30.48	774.2	30.50	774.7	1	—17.2	89	E	10	4.5	.....	5cs	0	Calm	.....	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.41	772.4	30.48	774.2	8.3	—13.2	93	N	2	0.9	.....	c	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.01	752.1	30.58	776.7	—16	—26.7	100	N	26	11.6	.....	.....	10n	.....	.....	0	0	Cloudy.....	James Stewart.
Granton, Ontario	29.10	739.1	30.30	769.6	16	— 8.9	.....	SE	.....	.....	2	.....	10n	.....	.....	0.10	2.5	Overcast.....	James Grant.
*Halifax, N. S	30.11	764.8	30.26	768.6	14	—10.0	95	N	15	6.7	.....	.....	10n	.....	.....	0.500	12.70	Light snow..	F. Allison, M. A.
Hamilton, Ontario	29.98	761.5	30.39	771.9	8.7	—12.9	93	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.00	762.0	30.38	771.6	1	—17.2	68	N	6	2.7	.....	10c	0	Calm	.....	Inap.	Inap.	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	30.24	768.1	30.29	769.4	18.0	— 7.8	90	NE	12	5.4	.....	.....	10n	.....	.....	.....	.....	Snow-squalls	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.22	767.6	30.45	773.4	— 1	—18.3	78	NE	15	6 7	.....	0	0	.....	.....	0.01	0.3	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.58	751.3	30.35	770.9	6	—14.4	72	N	6	2.7	.....	5c	0	W	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.59	751.6	30.44	773.2	0.4	—17.6	8	N	.....	.....	.....	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.59	751.6	30.34	770.6	17	— 8.8	98	Calm	0	0	.....	.....	Haze	.....	Calm	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	30.20	767.1	30.25	768.3	16.9	— 8.4	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.62	752.3	30.31	769.9	17	— 8.3	97	E	8	3.6	.....	.....	10n	.....	E	Inap.	Inap.	Cloudy.....	M. Payne.
*Quebec, Quebec	30.13	765.3	30.49	774.4	7	—13.9	58	NE	.....	.....	1	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.98	760.2	30.48	774.2	—24	—31.1	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	W. H. McIntyre.
St. Andrews, N. B	30.09	764.3	30.14	765.5	17	— 8.3	71	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	Dr. Grove.
St. John, N. B	30.22	767.6	30.40	772.2	9	—12.8	100	NE	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.53	750.0	30.31	769.9	14	—10.0	88	N	14	6.3	.....	5cs	10ks	.....	E	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.48	748.8	30.35	770.9	7	—13.9	74	E	3	1.3	.....	.....	10n	.....	S	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.96	735.6	30.35	770.9	14.0	—10.0	95	SE	7	3.1	.....	.....	10s	.....	.....	0	0	Overcast.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.21	767.3	30.25	768.3	18	— 7.8	91	NE	18	5.8	.....	.....	10n	.....	N	0.14	3.6	Light rain...	T. C. Hill.
*Toronto, Ontario	29.94	760.5	30.36	771.1	15	— 9.4	95	N	6	2.7	.....	.....	10s	.....	.....	0.02	0.4	Light snow..	Magnetic Observatory.
Windsor, N. S	30.23	767.8	30.33	770.4	18.0	—10.6	91	N	16	7.2	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	16.0	— 8.9	100	NE	.....	.....	.....	.....	10n	.....	.....	0.05	1.3	Snowing.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inch's.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim'rs.	WEATHER.	OBSERVER.
Albany, New York	30.16	766.1	30.42	772.6	8	—13.3	89	N	7	3.1	.....	2c	0	W	.....	0.28	7.1	Fair	
Alpena, Michigan	29.52	749.8	30.24	768.1	2	—16.7	72	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Atlanta, Georgia	29.05	737.9	30.25	768.3	35	1.7	70	NW	12	5.4	.....	2k	Sm'e	NW	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.34	770.6	30.35	770.9	29	— 1.7	100	N	14	6.3	.....	.....	10n	.....	Calm	0.07	1.8	Light snow.	
Augusta, Georgia	30.09	764 3	30.28	769.1	44	6.7	76	E	12	5.4	.....	2ck	5s	NE	N	Inap.	Inap.	Fair	
Baltimore, Maryland	30.34	770.6	30.40	772.1	29	— 1.7	78	N	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Barnegat, New Jersey	30.33	770.4	30.36	771.1	28	— 2.2	88	NE	17	7.6	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow.	
Bismarck, Dakota	28.50	723.9	30.35	770.9	—14	—25.6	100	NW	12	5.4	.....	0	0	.....	.....	0.06	1.5	Clear	
Boerne, Texas	28.78	731.0	30.19	766.8	30	— 1.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.26	692.4	30.22	767.6	42	5.6	83	SE	4	1.8	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Boston, Massachusetts	30.25	768.3	30.42	772.6	11	—11.7	90	N	11	4.9	.....	.....	10n	.....	NE	0.04	1.0	Light snow.	
Brackettville, Texas	29.11	739.4	30.19	766.8	41	5.0	74	SW	1	0.4	.....	8cs	0	W	.....	0	0	Fair	
Breckenridge, Minnesota	29.20	741.7	30.35	770.9	— 9	—22.8	88	N	26	11.6	.....	.....	10ks	.....	Calm	0.10	2.5	Cloudy	
Brownsville, Texas	30.19	766.8	30.26	768.6	50	10.0	93	NE	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Buffalo, New York	29.58	751.3	30.34	770.6	15.5	— 9.2	82	NE	6	2.7	.....	2cs	Haze	SW	Calm	0.03	0.8	Fair	
Burkes, Arizona	.....	.....	.....	.....	48	8.9	4	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.12	765.0	30.46	773.7	1.5	—16.9	81	N	1	0.4	.....	0	Fog	.....	Calm	0.02	0.5	Foggy	
Cairo, Illinois	29.92	760.0	30.34	770.6	36	2.2	71	S	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.28	642.1	30.08	764.0	51	10.6	28	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	36	2.2	45	N	.....	.....	2	0	0	.....	.....	0	0	Clear	
Camp, California	27.51	698.7	30.08	764.0	40	4.4	75	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.19	766.8	30.20	767.1	38	3.3	91	NE	20	8.9	.....	.....	10s	.....	NE	1.43	36.3	Cloudy	
Cape Henry, Virginia	30.24	768.1	30.26	768.6	32	0.0	89	N	19	8.5	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	36	2.2	90	NE	28	12.5	.....	.....	10s	.....	NE	1.35	34.3	Cloudy	
Cape May, New Jersey	30.30	769.6	30.33	770 4	28	— 2.2	77	N	11	4.9	.....	.....	10s	.....	SE	0.01	0.3	Cloudy	
Castroville, Texas	29.49	749.0	30.25	768.3	37	2.8	81	W	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	30.17	766.3	30.23	767.8	42	5.6	83	N	8	3.6	.....	.....	10s	.....	NE	0.80	20.3	Cloudy	
Cheyenne, Wyoming	24.02	610.1	29.96	761 0	22	— 5.6	72	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.30	744.2	30.03	762.8	30	— 1.1	89	W	4	1.8	.....	.....	10n	.....	Calm	0.09	2.3	Light snow.	
Cincinnati, Ohio	29.03	752.6	30.33	770.4	25	— 3.9	81	SW	7	3.1	.....	.....	10s	.....	SW	0	0	Cloudy	
Cleveland, Ohio	29.54	750.3	30.33	770.4	15	— 9.4	82	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.40	721.3	30.18	766.6	30	— 1.1	78	S	4	1 8	.....	0	2s	.....	Calm	0	0	Fair	
Columbus, Ohio	29.37	746.0	30.26	768.6	25	— 3.9	75	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Corpus, Texas	28.21	716.5	29.98	761.5	33	0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.81	757.2	30.31	769.9	35	1.7	80	E	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.30	744.2	29.96	761.0	30	— 1.1	89	SW	12	5.4	.....	.....	10s	.....	Calm	0.14	3.6	Threatening	
Deadwood, Dakota	25.39	644.9	.....	.....	17	— 8.3	83	S	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Decatur, Texas	29.65	737.9	30.18	766.6	35	1.7	81	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.43	747.5	30.27	768.8	33	0.6	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.82	630.4	30.04	763.0	24	— 4.4	87	NW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.20	741.7	30.15	765.8	16	— 8.9	83	W	16	7.2	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Detroit, Michigan	29.50	749.3	30.21	767.3	23	— 5.0	73	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.62	701.5	30.06	763.5	25	— 3.9	87	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.22	742.2	29.96	761.0	23	— 5.0	86	NW	4	1.8	.....	.....	10n	.....	Calm	0.09	2.3	Light snow.	
Duluth, Minnesota	29.33	745.0	30.05	763.3	20	— 6.7	92	NW	4	1.8	.....	.....	10n	.....	NW	0.12	3.0	Light snow.	
Eagle Pass, Texas	29.46	748.3	30.24	768.1	41	5.0	82	Calm	.....	.....	0	1c	0	Calm	.....	0	0	Clear	
Eastport, Maine	30.32	770.1	30.39	771.9	12	—11.1	80	NL	19	8.5	.....	2k	0	NE	.....	0.34	8.6	Clear	
Edinburg, Texas	.....	.....	.....	.....	50	10.0	86	Calm	.....	.....	0	5cs	5s	S	Calm	0	0	Cloudy	
El Paso, Texas	26.24	666.5	.....	.....	38	3.3	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.57	751.1	30.36	771.1	12	—11.1	100	S	3	1.3	.....	2ck	Haze	Calm	.....	Inap.	Inap.	Fair	
Escanaba, Michigan	29.39	746.5	30.08	764.0	20	— 6.7	85	E	5	2.2	.....	.....	10n	.....	E	0.05	1.3	Light snow.	
Florence, Arizona	28.51	724.1	30.11	764.8	45	7.2	61	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.32	719.3	.....	.....	—17	—27.2	68	N	.....	.....	2	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Fort Craig, New Mexico	25.67	652.0	29.73	755.1	31	— 0.6	68	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.33	643.4	30.29	769.4	35	1.7	61	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.70	754.4	30.27	768.8	30	— 1.1	89	SE	5	2.2	.....	2c	0	W	.....	0	0	Clear	
Fort Griffin, Texas	28.89	733 8	30.25	768.3	30	— 1.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.67	702.8	.....	.....	— 4	—20.0	64	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	27.95	709.9	29.93	760.2	44	6.7	52	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.94	735.1	30.11	764.8	32	0.0	89	E	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.55	725.2	.....	.....	—16	—26.7	100	NW	.....	.....	2	0	0	.....	.....	0.05	1.3	Clear	
Fredericksburg, Texas	28.50	723.9	30.10	764.5	51	10.6	59	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.28	769.1	30.33	770.4	50	10.0	79	E	7	3.1	.....	0	5ks	.....	E	0	0	Fair	
Graham, Texas	29.13	739.9	30.25	768.3	33	0.6	79	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.42	747.2	30.11	764.8	20	— 6.7	70	E	8	3.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Indianapolis, Indiana	29.39	746.5	30.23	767.8	20	— 6.7	70	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.27	768.8	30.30	769.6	52	11.1	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.04	737.6	30.23	767.8	38	3.3	72	S	4	1.8	.....	2c	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.20	767.1	30.22	767.6	47	8.3	77	N	10	4.5	.....	.....	10s	.....	N	0.33	8.4	Cloudy	
Keokuk, Iowa	29.39	746.5	30.02	762.5	33	0.6	84	W	13	5.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Key West, Florida	30.11	764.8	30.14	765.5	71	21.7	95	W	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Kittyhawk North Carolina	30.19	766.8	30.22	767.6	35	1.7	90	NE	32	14.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Knoxville, Tennessee	29.26	743.2	30.33	770.4	30	— 1.1	84	N	3	1.3	.....	Haze	Sm'e	.....	N	0	0	Clear	
La Crosse, Wisconsin	29.17	740.9	29.95	760.7	20	— 6.7	70	NW	12	5.4	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
La Mesilla, New Mexico	26.21	665.7	30.36	771.1	34	1.1	70	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.84	757.9	30.20	767 1	42	5.6	83	Calm	0	0	.....	10c	0	Calm	.....	0	0	Cloudy	
Leavenworth, Kansas	29.33	745.0	30.22	767.6	30	—1.1	68	NW	16	7 2	.....	0	4s	.....	.....	0	0	Fair	
Los Angeles, California	29.70	754.4	30.04	763.0	58.0	14.4	53	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.70	754.4	30.30	769.6	28	— 2.2	77	S	4	1.8	.....	.....	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.62	752.3	30.85	770.9	33	0.6	79	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Madison, Wisconsin	28.89	733.8	29.92	760.0	27	— 2.8	88	S	9	4.0	.....	.....	10n	.....	Calm	0.12	3.0	Heavy snow	
Marquette, Michigan	29.31	744.5	30.05	763.3	21	— 6.1	86	Calm	0	0	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Mason, Texas	28.57	725.7	30.45	773.4	31	— 0.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.02	762.5	30.36	771.1	33	0.6	79	S	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Milwaukee, Wisconsin	29.25	742.9	30.01	762.2	28	— 2.2	89	S	10	4.5	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Mobile, Alabama	30.25	769.1	30.33	770.4	37	2.8	81	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.08	764.0	30.33	770.4	35	1.7	80	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Morgantown, West Virginia	29.20	741.7	30.30	769.6	37	2.8	63	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.66	601.6	30.62	762.5	3	—16.1	73	SE	12	5.4	.....	0	5ks	.....	Calm	0.40	10.2	Clear	
Nashville, Tennessee	29.79	756.7	30.36	771.1	30	— 1.1	89	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
New Haven, Connecticut	30.30	769.6	30.43	772.9	15	— 9.4	65	NE	10	4.5	.....	2ck	2s	Calm	Calm	0.01	0.3	Fair	
New London, Connecticut	30.34	770.6	30.40	772.1	15	— 9.4	82	N	9	4.0	.....	6cs	0	NE	.....	Inap	Inap.	Fair	
New Orleans, Louisiana	30.26	768.6	30.33	770.4	40	4.4	73	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.34	770.6	30.40	772.1	18.5	— 7.5	84	N	10	4.5	.....	.....	10s	.....	Calm	0 04	1.0	Cloudy	
New York, New York	30.22	767.6	30.41	772.4	28	— 5.0	86	NE	17	7.6	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow.	
Norfolk, Virginia	30.28	767.8	30.29	769.4	32	0.0	79	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.29	693.2	30.09	764.3	14	—10.0	73	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Olympia, Washington Ter.	29.92	760.0	29.96	761.0	40.2	4.6	91	NW	1	0.4	.....	.....	10n	.....	.....	1.42	36.1	Heavy rain.	
Omaha, Nebraska	29.08	738.6	30.30	769.6	12	—11.1	80	NW	16	7.2	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Oswego, New York	29.07	738.4	30.42	772.6	14	—10.0	82	SE	4	1.8	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Pembina, Dakota	29.56	750.8	30.53	775.4	—15	—26.1	100	NW	24	10.7	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Philadelphia, Pa	30.32	770.1	30.37	771.4	24	— 4.4	87	NE	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Phœnix, Arizona	28.92	734.6	30.76	781.3	50	10.0	52	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pike's Peak, Colorado	17.65	448.3	29.86	758.4	6	—14.4	52	NW	40	17.9	.....	8cs	0	NW	.....	0	0	Cloudy	
Ploche, Nevada	24.22	615.2	29.99	761.7	39	3.9	55	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.46	748.3	30.33	770.4	22	— 5.6	86	NW	2	0.9	.....	.....	10s;fg	.....	Calm	Inap.	Inap.	Cloudy	
Port Huron, Michigan	29.52	749.8	30.28	767.8	19	— 7.2	85	SE	9	4.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.36	771.1	30.42	772.6	12	—11.1	80	N	12	5.4	.....	1k	0	Calm	.....	0.62	15.7	Clear	
Portland, Oregon	29.94	760.5	30.03	762.8	53.8	12.1	91	S	19	8.5	.....	.....	10s	.....	.....	0.46	11.7	Threatening	
Prescott, Arizona	24.88	631.9	30.24	768.1	30	— 1.1	57	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.13	739.9	29.97	761.2	45	7.2	60	SE	12	5.4	.....	2k	Sm'e	S	.....	0	0	Smoky	
Punta Rassa, Florida	30.15	765.8	30.17	766.3	66	18.9	79	N	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Red Bluff, California	29.88	758.9	30.25	768.3	46	7.8	84	NW	4	1.8	.....	0	1s	.....	Calm	0.03	0.8	Clear	
Rio Grande City, Texas	30.11	764.8	30.34	770.6	48	8.9	93	W	5	2.2	.....	0	2s	.....	SE	0	0	Clear	
Rochester, New York	29.72	754.9	30.39	771.9	19	— 7.2	85	W	2	0.9	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Roseburg, Oregon	29.58	751.3	30.15	765.8	50.5	10.3	100	SW	2	0.9	.....	0	8s	.....	Calm	0.08	2.0	Cloudy	
Sacramento, California	30.12	765.0	30.20	767.1	51	10.6	100	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.57	751.1	30.17	766.3	32	0.0	79	S	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.23	767.8	30.25	768.3	41	5.1	82	N	10	4.5	.....	.....	10s	.....	N	0.76	19.3	Cloudy	
St. Paul, Minnesota	29.05	737.9	29.92	760.0	21	— 6.1	72	W	3	1.3	.....	.....	10s	.....	Calm	0.25	6.3	Cloudy	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	48	8.9	49	Calm	0	0	.....	0	8ks	.....	W	Inap.	Inap.	Cloudy	
San Antonio, Texas	29.29	761.6	30.21	767.3	38	3.3	81	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.98	761.5	30.05	763.3	54	12.2	77	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.55	750.6	30.28	767.1	21	— 6.1	86	SE	7	3.1	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sandy Hook, New Jersey	30.36	771.1	30.40	772.1	22	— 5.6	72	NE	17	7.6	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow.	
San Francisco, California	30.15	765.8	30.21	767.3	51.3	10.7	96	S	2	0.9	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	28	— 2.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.15	765.8	30.25	768.3	41	5.0	91	N	4	1.8	.....	.....	10s	.....	Calm	0.60	15.2	Cloudy	
Shreveport, Louisiana	29.13	739.9	30.36	771.1	36	2.2	71	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Silver City, New Mexico	24.40	619.8	30.76	781.3	35	1.7	60	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.22	767.6	30.25	768.3	35	1.7	90	N	10	4.5	.....	.....	10s	.....	SW	1.25	31.7	Cloudy	
Springfield, Massachusetts	30.30	769.6	30.44	773.2	18	— 7.8	68	NE	14	6.3	.....	.....	10n	.....	NE	0.01	0.3	Light snow.	
Stockton, Texas	27.10	686.3	30.10	764.5	34	1.1	79	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.35	770.9	30.41	772.4	22	— 5.6	100	NE	21	9.4	.....	.....	10n	.....	NE	0.11	2.8	Light snow.	
Toledo, Ohio	29.48	748.8	30.22	767.6	22	— 5.6	86	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	27.65	702.3	30.20	767.1	45	7.2	53	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.08	753.9	30.19	766.8	55.5	1.9	100	W	4	1.8	.....	.....	Fog	.....	W	0.27	6.9	Foggy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	29	— 1.7	77	N	.....	.....	4	.....	10s	.....	N	0	0	Cloudy	
Uvalde, Texas	29.36	745.7	30.24	768.1	40	4.4	72	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	30.13	765.3	30.41	772.4	35	1.7	80	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Virginia City, Montana	24.16	613.6	29.64	752.8	30	— 1.1	68	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.82	757.4	30.21	767.3	47	8.3	92	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Washington, D. C.	30.26	768.6	30.30	771.9	28	— 2.2	66	N	5	2.2	.....	5ck	5ks	N	N	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	45	7.2	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.16	766.1	30.24	768.1	34	1.1	79	N	11	4.9	.....	8cs	0	W	.....	0.77	19.6	Fair	
Winnemucca, Nevada	25.84	656.3	30.20	767.1	35	3.3	81	SW	10	4.5	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Wood's Holl, Mass	30.30	769.6	30.34	770.6	22	— 5.6	86	NW	12	5.4	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow.	
Yankton, Dakota	28.99	736.3	30.43	772.9	6	—14.4	76	NW	31	13.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Yuma, Arizona	29.88	758.9	30.04	763.0	59	15.0	48	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28 63	727.2	30.12	765.0	30	— 1.1	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba, W. I	30.09	764.3	30.14	765.5	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	.....	.....	Foggy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.98	761.5	30.06	763.5	79	26.1	.....	NE	20.8	9.3	.....	.....	.....	.....	.....	0.01	0.3	Partly cl'dy.	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.03	762.8	30.03	762.8	81	27.2	78	NE	.....	.....	3	2c	3k	NE	.....	0	0	Cloudy	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.52	775.2	30.58	776.7	—43.0	—41.7	.....	W	9	4.0	.....	0	2s	.....	W	0	0	Fair	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,822 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.60 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.27	768.8	53.5	11.9	49.5	9.7	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	.....	.....	Foggy.....	
Navy Yard, Pensacola, Fla.	30.48	774.2	38	3.3	38	3.3	81	NE	3	1.3	.....	.....	1	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H.	30.33	770.4	52	11.1	9	—12.8	78	NNE	4	1.8	.....	.....	5	.....	.....	.....	.....	.....	.....	Heavy clouds...	
Naval Hospital, Yokohama, Japan.....*	29.89‡	759.2‡	.....	.....	41	5.0	74	N	.....	.....	2	.....	8ks	.....	NW	0.42	10.7	.....	.....	Cloudy.....	
Adams, Panama	29.95	760.7	79	26.1	78	25.6	95	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Alaska, N. 25° 19', W. 110° 21'.....	30.10	764.5	70	21.1	64	17.8	78	WNW	.....	.....	2	.....	5	.....	SE	.....	.....	Smooth	.....	D. clouds.....	
Alliance, Villafranca, France.....	29.74‡	755.1‡	.....	.....	56	13.3	19	W	.....	.....	2–5	.....	2	.....	S;W	.....	.....	Light	S	Squally.....	
Ashuelot, Hong-Kong, China.	30.02‡	762.5‡	.....	.....	61	16.1	50	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Canonicus, New Orleans, La.....	30.22	767.6	38	3.3	41	5.0	91	NNW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	30.33	770.4	23	— 5.0	23	— 5.0	100	NE	5	2.2	.....	.....	10	.....	.....	.....	.....	.....	.....	Light snow.	
Constitution, Lisbon, Portugal.....	30.26‡	768.6‡	.....	.....	56	13.3	94	NW	.....	.....	2	.....	7	.....	NW.	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	29.37‡	746.0‡	.....	.....	53	11.7	67	SSW	.....	.....	4	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.43	772.9	72	22.2	34	1.1	79	NNE	8.4	3.8	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy	
Gettysburg, Genoa, Italy	29.71‡	754.6‡	.....	.....	57	13.9	87	NNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Hartford, Montevideo, Uruguay...	29.90	759.4	69	20.6	69	20.6	65	NW	.....	.....	3	.....	8	.....	.....	0.43	10.9	Smooth	.....	Fair.....	
Lackawana, Panama.....*...	29.72‡	754.9‡	.....	.....	78	25.6	95	NW	.....	.....	0–1	.....	5	.....	.....	0	0	.....	.....	Cloudy.....	
Michigan, Erie, Pa.....†	30.10	764.5	.....	.....	11	—11.7	80	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Monocacy, Shanghai, China.....*	29.95‡	760.7‡	.....	.....	50	10.0	72	SW	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongehela, Yokohama, Japan ....*..	29.87‡	758.7‡	.....	.....	38	3.3	100	N	.....	.....	1	.....	10	.....	N	Mod'ate	Mod'ate	.....	.....	D. clouds.....	
New Hampshire, Port Royal, S. C.....	30.25	768.3	45	7.2	44	6.7	100	NNW	13	5.8	.....	.....	10	.....	NNW	0.04	1.0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†..	30.02	762.5	.....	.....	68	20.0	95	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	29.91	756.7	22	— 5.6	20	— 6.7	100	SE	.....	.....	6	.....	0	.....	.....	.....	.....	.....	.....	Light haze..	
Passaic, Washington, D. C.....	.....	.....	.....	.....	29	— 1.7	78	NE	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Pensacola, S. 31° 54', W. 98° 40'.....	30.32‡	770.1‡	.....	.....	69	20.6	75	ESE	21	9.4	.....	.....	8	.....	SE	0	0	Long	S	Cloudy.....	
Powhatan, N. 17° 23', W. 71° 20'.	30.14	765.5	78	25.6	78	25.6	82	ENE	.....	.....	4	.....	8	.....	E	0	0	Smooth	.....	Hazy.....	
Quinnebaug, Villafranca, France.....	29.72‡	754.9‡	.....	.....	55	12.8	28	W	.....	.....	5	.....	2	.....	W	.....	.....	Ground	S	Fair	
Ranger. Kobe, Japan.....*...	29.90‡	759.4‡	.....	.....	61	16.1	77	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Richmond, Villefranca, France.....	29.72‡	754.9‡	.....	.....	59	15.0	18	WSW	.....	.....	4	.....	2	.....	.....	.....	.....	Long	.....	Clear.....	
Rio Bravo, Brownsville, Texas.....	30.18	766.6	62	16.7	51	10.6	93	N	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md...	30.34‡	770.6‡	.....	.....	29	— 1.7	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Light snow.	
St. Louis, League Island, Pa	30.23	767.8	54	12.2	28	— 2.2	.....	NNE	8	3.6	.....	.....	10	.....	NE	.....	.....	.....	.....	Snowing.....	
Supply, N. 21° 52', W. 42° 25'.....	30.10‡	764.5‡	.....	.....	76	24.4	82	ENE	.....	.....	3	.....	2	.....	ENE	.....	.....	Smooth	.....	Clear.....	
Trenton Villafranca, France.....	29.71‡	754.6‡	.....	.....	62	16.7	77	W	.....	.....	3–6	.....	0	.....	.....	0	0	Long	S	Clear.....	
Tuscarora, Acapulco, Mexico.....	30.00‡	762.0‡	.....	.....	76	24.4	73	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Wabash, Boston, Mass.....	30.42‡	772.6‡	.....	.....	11	—11.7	80	N	12	5.4	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Wyoming, Smyrna, Turkey.....	29.52‡	749.8‡	.....	.....	62	16.7	83	W	.....	.....	3–5	.....	5	.....	W	.....	.....	Mod'ate	W	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, La Libertad, San Salvador...†		30.02‡	762.5‡	84	28.9	68	N			1		1				Small	SW	Hazy	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 21° 58′, W. 156° 30′		30.07‡	763.5‡				ENE			2-3				E		Long; mod'ate	NW; E	Light clouds	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. ‡Correction for elevation applied at this office.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Belgic, Capt. L. Meyer, N. 38° 05′, E. 134° 14′...*		29.76‡	755.9‡	57	13.9	69	NNE			4		8		NE		Mod'ate	NNE	Squally	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 14′, W. 127° 01′...†		30.17‡	766.3‡	59	15.0	70	N			3		0		N		Long	NW	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. †Aneroid. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Baltimore																			Capt. H. Andreasen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Capt. Undutsch																			L. Jahns.
S. S. Leipzig, N. 14° 41′, W. 58° 36′		29.96‡	761.0‡	51.1	10.6		W			3		10		W	Blank	4	W	Misty.	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware River		30 26‡	768.6‡	28	— 2.2		NE			5		9		NE	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool							NE			2		10		NE	Blank			Cloudy	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, Halifax, N. S.		30.34‡	770.6‡	13.5	—10.3		N			4		10s			24hours			Snowing	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

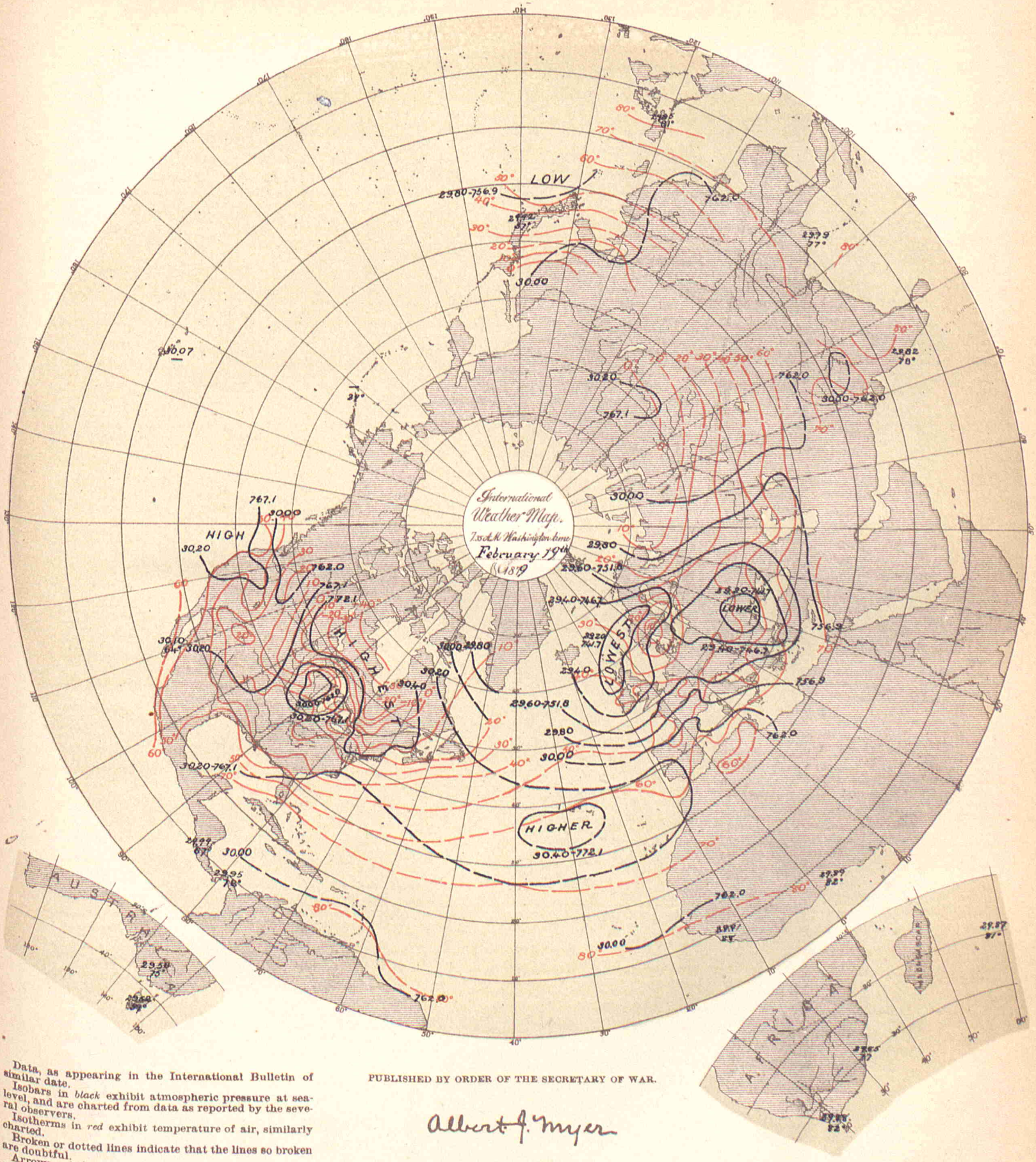
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 20, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.19	766.8	69.7	15.4		NE			2		5			0	0	Cloudy	
Nemours			30.17	766.4	63.3	17.4	78	WNW			1		2			0	0	Fair	Kesxuche.
Algiers			30.00	762.1	62.6	17.0	66	WSW			4		2			0	0	Fair	Tourlliere.
La Calle			29.99	761.7	65.8	18.8	54	WSW			3		5			0	0	Cloudy	Foufrede.
Tunis			30.03	762.8	65.1	18.4	86	SW			3		5			0	0	Cloudy	Jacques.
Sfax			30.06	763.5															Gau.
Saida			30.07	763.8	64.0	17.8	23	SW			1		0			0	0	Clear	Herbin.
Tebessa			30.07	763.8	59.5	15.3	44	SW			4		2			0	0	Fair	Watrin.
Geriville			30.08	764.0	60.1	15.6	96	NW			2		0			0	0	Clear	Brugniaux.
Laghouat			30.11	764.7	61.5	16.4	83	SW			3		0			0	0	Clear	Bertrand.
Biskra			30.05	763.3	68.5	20.3	32	NW			1		0			0	0	Clear	Chanvaux.

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.99	736.3	29.54	750.2	48.2	9.0	66	SW			2		10			0	0		Prof. Ivan Stoair
Cracow, I. R. Observatory	28.72	729.6	29.50	749.4	38.1	3.4	66	WNW			3		9			0	0		Dr. Wierzbiski
Eperies	28.62	727.0	29.52	749.7	37.4	3.0	73	SE			2		8			0	0		Julius Mikolik.
Gratz	28.26	717.8	29.54	750.2	37.8	3.2	66	SE			3		8			0	0		Andreas Rospini.
Hermannstadt	28.21	716.4	29.67	753.5	37.8	3.2	69	NW			5		0			0	0		Prof. A. Gottschling.
Kremsmünster	28.07	713.0	29.44	747.8	34.3	1.3	80	Calm			0		10			0.331	8.4		Prof. C. Wagner.
Lemberg	28.47	723.1	29.47	748.6	36.0	2.7	70	SW			4		3			0	0		Dr. T. Stanecki.
Pola	29.49	749.0	29.60	751.9	52.2	11.2	63	WSW			4		2					Thunder-storm.	I.R.Hydrographic Office.
Szathmar	29.19	741.5	29.67	753.5	39.9	4.4	63	S			5		4			0.012	0.3		Julius Csics, S. J.
Szegedin	29.22	742.3	29.50	749.4	46.8	8.2	67	SW			2		3			0	0		Karl Stancel.
Trieste	29.49	749.1	29.60	751.7	50.7	10.4	74	SW			1		2?			1.480	37.6		P. Busin.
Vienna	28.74	730.1	29.47	748.4	43.3	6.3	55	SSE			2		10			0	0		I. R. Central Met. Ob's'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	28.96	735.6	29.16	740.7	41.2	5.1	67	SW			2	8	7	W	WSW	0.047	1.20		Royal Observatory
Furnes	29.12	739.7	29.15	740.3	42.1	5.6	70	W			3		7			0.020	0.5		M. E. de Cae.
Maeseyck	29.03	737.4	29.16	740.6	37.2	2.9	95	SW			2		10			0.142	3.6	Raining	M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.07	738.4	29.17	740.9	31.0	— 0.6		WSW	4	1.8			1			0.240	6.10	Blue sky	W. Boswell.
Ardrossan	29.09	738.9	29.11	739.4	32	0.0		NE			2		5					Foggy	William McNeil.
Armagh, Observatory			29.21	741.9	36.3	2.4		WSW	3	1.3			9					Overcast	S. Call.
Bidston, (Liverpool Obs.)			29.07	738.4	32.9	0.5		NNW	6	2.7			10					Snowing	John Hartnup.
Bolton, (Sharples)			29.05	737.9	34.3	1.3		SW	12	5.4			10					Snowing	Thomas Mackereth.
Bradford, Yorkshire	28.66	728.0	29.06	738.1	36.1	2.3		NE			1		10			0.09	2.3	Raining	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	80	26.7		NE			1		3					D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory			29.07	738.4	39.0	3.9		W			1		2					D. clouds	H. Todd.
Cardington			29.15	740.4	41.0	5.0		NW			1		4					Blue sky	John McLaren.
Chatham, School M. E.	28.97	735.8	29.10	739.1	41.1	5.1		SW			2		5					D. clouds	Corpl. Daly, R. E.
Dartmoor	27.98	710.7	29.47	748.5	34.0	1.1		SW			4		7					Snow-showers	Alexander Watt.
Donaghadee	29.07	738.4	29.11	739.4	37	2.8		ESE			3		8					D. clouds	J. Mac Gowan.
Dover	29.07	738.4	29.09	738.9	42	5.6		W			4		4					½ clouded	J. Costello.
Falmouth, Observatory	28.97	735.8	29.20	741.7	42.0	5.6		WNW			5		3					Squally	The Staff.
Fort Napier, (Natal)	27.46	797.5	29.78	756.4	75.6	24.2		E			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.60	751.8	29.83	757.7	88	31.1		W ?			0?		3					D. clouds	
Galway, Queen's College			29.03	737.3	36	2.2		SE			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.06	763.5	30.12	765.0	58.5	14.7		W			2		2					Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	28.93	734.8	29.13	739.9	30.6	— 0.8		NNE			2							Overcast	D. G. Maclean.
Great Yarmouth	29.05	737.9	29.06	738.1	38	3.3		W			1		6					Misty	G. T. Watson.
Greenwich, Royal Obs'y	28.93	734.8	29.10	739.1	42.0	5.6		WSW			1		5					D. clouds	The Staff, for G. B. Airy
Guernsey	28.95	735.3	29.14	740.1	43.5	6.4		WSW			3		4			Blank	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.18	741.2	29.30	744.2	44	6.7		NW			6		4ck			0.22	5.6	Fine	M. P. Moyle.
Holyhead	29.06	738.1	29.11	739.4	38	3.3		WNW			3		1					Blue sky	John Tilston.
Jersey	28.90	734.0	29.19	741.4	41.3	5.2		W			3		7					D. clouds	J. Fisher.
Kew, Observatory	29.06	738.1	29.10	739.1	40.8	4.9		WSW	14	6.3			8					Raining	The Meteorological Of.
Leicester, Museum	28.79	731.3	29.04	737 6	37.3	2.9		SW			3		9			Blank	Blank	Overcast	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	30.05	763.3	30.13	765.3	63	17.2		NW			2		4k					Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.01	736.8	29.10	739.1	37	2.8		Calm			0		0					Clear	W. D. Penny.
Nassau, (Bahamas)			30.15	765.8	69.0	20.6		NW			3		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	28.86	733.0	29.06	738.1	35.2	1.8		WNW			1		10			0.307	7.80	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.53	724.6	29.06	738.1	39.1	3.9		W			3-4		9					D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y			29.11	739.4	34	1.1		S			1		10					Rain & snow	H. E. Bellamy.
Plymouth	29.07	738.4	29.15	740.4	42.4	5.8		NW			4		10					Hailing	John Merrifield.
Roche's Point	29.12	739.6	29.16	740.7	43	6.1		WNW			4		5					½ clouded	W. Kennedy.
Saint Ann's Head	28.98	736.1	29.15	740.4	39	3.9		NW			3		7					Showery	John C. Walker.
Sandwick Manse, (Orkneys)			29.09	738.9	36.1	2.3		SW	7	3.1			1					Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			29.75	755.6	52.6	11.4		SW			3		2					D. clouds	W. H. Lyne.
Sheffield	28.79	731.3	29.08	738.6	34.6	1.4		NE			1		10			0.10	2.5	Rain & snow	W. F. Cooper.
Silloth Rectory	29.09	738.9	29.12	739.6	38.2	3.4	78	NE			2		4			0	0	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	28.68	728.5	29.08	738.6	35.0	1.7		NNE			1		10			Blank	Blank		Rev. S. J. Perry.
Strathfield Turgiss	28.90	734.0	29.11	739.4	43.4	6.3		W			2		7					D. clouds	C. H. Gritton, F.M.S.
Thurso	29.02	737.1	29.09	738.9	39	3.9		Calm			0		4					D. clouds	John Trotter.
Truro, Royal Institution			29.22	742.2	46	7.8		NW			4		6					D. clouds	W. Newcombe
Valencia, Observatory	29.12	739.6	29.14	740.1	44.7	7.1		WSW	23	10.3			10			Blank	Blank	Misty	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.86	758.4	29.90	759.4	81.5	29.5	52	SSE	10	4.5		8	4			0	0		The Staff, for D. Gill.
Hobart Town, (Tasmania)			29.12	739.6	59.0	15.0	73	NW			7		10kn			0	0	Squally	Francis Abbott, F.R.A.S.
Leith, Restalrig Park			29.17	740.9	32.0	0.0		NE			1		10s		S	0.04	1.0	Foggy	Andrew Gibb.
Mauritius, Observatory	29.64	752.8	29.82	757.5	80.8	27.1	72	E	16.5	7.4		2	7		ENE	0.06	1.5	Squally	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.66	753.9	58.9	14 9	49	WNW	18	8.0			3			0	0	Lightning	R. L. J. Ellery.
Monach L't-house, (Hebrides			29.11	739.4	41	5.0		W			3	3	3	W		0	0		J. Youngclause.
North Unst, (Shetland Is.)			29.06	738.1	36	2.2		SW			4	10	10	SW					Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series.

Vessels.

	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine			Capt. Alex. Wilson.
Barque Commewyne			Capt. A. Buchan.
S. S. Gordon Castle			Capt. W. Waring.
Barque Margaret Smith			Capt. D. W. A. Quallie
Schooner Traveller			Capt. Alex. Simpson.
Barque Virginia			Capt. W. Spratly.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	64.0	17.8	82	SE	.....	.....	1	.....	2ks	.....	NE	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.41	747.1	29.46	748.3	17.6	— 8.0	65	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	29.37	746.9	29.39	746.4	20.7	— 6.3	82	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.85	758.3	29.90	759.4	7.3	—13.7	100	N	.....	.....	4	.....	10	.....	.....	.....	.....	.....	Snowing.
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.00	736.5	29.03	737.4	31.1	— 0.5	75	NE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	29.26	743.2	29.43	747.5	19.4	— 7.0	78	SE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.62	726.8	29.17	740.8	35.6	2	96	NE	.....	.....	1	.....	10	.....	.....	0.110	2.8	Snowing	Collignon, Director.
Amiens, Normal School	28.98	736.2	29.21	742.0	39.6	4.2	76	SSW	.....	.....	3	.....	8	.....	E	0.087	2.2	Very cloudy	Bonvallet, Director.
Avignon, Normal School	29.43	747.5	29.51	749.5	53.1	11.7	62	SE	.....	.....	3	.....	n	W	SE	0	0	.....	M. Giraud, Director.
Bar-sur-Seine	28.67	728.3	29.25	742.9	34.9	1 6	95	SE	.....	.....	1	.....	10	.....	.....	0.220	5.6	Rain & snow	C. Saillard, Director.
Beauvais, Normal School	28.91	734.2	29.19	741.5	40.8	4.9	74	S	.....	.....	1	.....	10	.....	SSW	0.167	4.25	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.46	722.8	29.36	745.6	44.2	6.8	77	SW	.....	.....	6	.....	10	.....	SW	0.165	4.2	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.71	729.3	29.60	751.9	44.6	7	69	S	.....	.....	6	.....	kn	S	S	0	0.	.....	M. Marlot, Director.
Bourges, Normal School	28.59	726.1	29.14	740.1	42.8	6	91	SW	.....	.....	6	.....	10	SW	SW	0.51	13.	Covered	A. Waquet, Director
Brest, Naval Observatory	28.98	736.2	29.23	742.4	45.3	7.4	74	W	.....	.....	3	.....	9	.....	W	0.177	4.50	.....	M.de Rermaree, Director
Carcassonne, Normal School	29.07	738.4	29.49	749.0	49.3	9.6	58	NW	.....	.....	1	.....	8	W	NW	0.059	1.5	Very cloudy	September, Director.
Caen, Normal School	29.10	739.2	29.18	741.1	39.2	4	83	SSE	.....	.....	2	.....	10	.....	.....	0.16	4.	Covered	M. Lair, Director.
Chartres, Normal School	28.52	724.4	29.10	739.0	33.4	0.8	96	NE	.....	.....	3	.....	10	.....	SW	0.39	10.	Snowing	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	28.86	733.1	29.19	741.3	41.0	5.0	81	W	.....	.....	6	.....	10	W	W	.....	.....	Snowing	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	27.87	707.9	29.21	742.0	48.0	8.9	59	S	.....	.....	3	.....	10	.....	W	0.094	2.4	.....	Alluard, Director.
Commercy, Normal School	28.43	722.2	29.32	744.6	38.8	3.8	80	SW	.....	.....	1	.....	10kmge	.....	SW	0.484	12.3	Covered	Dr. Coulet, Director
Commune de Grèasque*	28.50	723.9	29.64	752.9	49.6	9.7	58	SW	.....	.....	4	.....	10	.....	S	0.177	4.5	Covered	M. Kina, Director.
Grenoble, Normal School	28.76	730.4	29.52	749.9	46.4	8	69	SW	.....	.....	2	.....	10n	S	.....	0 059	1.50	Covered	M. Ablard, Director.
La Roche-sur-Yon N. School	29.07	738.4	29.29	743.9	36.7	2.6	96	SSW	.....	.....	6	.....	10	.....	.....	1.102	28.0	Snowing	Mouillot, Director
Le Mans, Normal School	28.86	733.0	29.17	741.0	33.4	0.8	96	SE	.....	.....	4	.....	10	.....	S	0.185	4.7	Covered	Poirrier, Director
Lons-Le-Saulnier, N. School	28.63	727.1	29.52	749.9	46.0	7.8	72	S	.....	.....	6	.....	5	.....	W	0.098	2.50	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.17	740.8	29.27	743.4	55.4	13.0	16	NW	.....	.....	3	.....	.....	.....	NW	0.276	7.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.33	719.5	29.39	746.4	40.3	4.6	74	NNW	.....	.....	3	.....	10n	.....	SSE	0.28	7.	Snowing	M. Barbier, Director.
Nismes, N. rmal School	29.34	745.2	29.54	750.4	53.6	12	67	W	.....	.....	3	.....	5	.....	NE	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.41	721.6	29.48	748.8	46.8	8.2	69	S	.....	.....	4	.....	n	S	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24 32	617.7	.....	.....	28.0	— 2.2	100	S	.....	.....	10	.....	10	.....	.....	0.461	11.7	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.20	741.6	29.23	742.4	48.2	9.0	89	W	.....	.....	10	.....	10	W	W	0.906	23.0	Covered	L. Decante, Director.
Rouen, Normal School	29.07	738.3	29.15	740.4	39.2	4.0	83	SSW	.....	.....	2	.....	8	.....	SW	0.055	1.4	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.15	740.5	29.18	741.2	39.8	4.2	90	SW	.....	.....	2	.....	8	SW	SW	0.114	2.90	Very cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.03	737.4	29.20	741.6	35.2	1.8	94	S	.....	.....	1	.....	.....	.....	.....	0.437	11.1	.....	E. Renou, Director.
Tarbes, Normal School	28.50	723.9	29.59	751.5	46.4	8	59	W	.....	.....	2	.....	10	.....	.....	0.39	10.	Raining	T. Huguet, Director.
Versailles Observatory	28.69	728.7	29.18	741.2	34.7	1.5	.....	SW	.....	.....	3	.....	10	.....	.....	0.239	6.07	Covered	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.75	730.2	29.46	748.3	47.7	8.7	97	SE	.....	.....	4	.....	5	W	SW	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.7	29.98	761.4	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons Obs'y, (Park Station)	.....	.....	29.36	745.7	46.4	8.0	67	S	.....	.....	6	.....	10	.....	.....	0.004	0.1	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.40	619.7	29.71	754.7	30.6	—0.8	76	SW	.....	.....	10	.....	4	.....	WSW	0	0	.....	M. Cave.
Nice	.....	.....	29.65	753.2	55.0	12.8	57	W	.....	.....	4	.....	10	.....	.....	.....	.....	Rainy	Dr. A. Nièpce, Jr.
Paris, Montsouris Obs'y	28.91	734.4	.....	.....	33 3	0.7	98	Var.	.....	.....	2	.....	10	.....	.....	0.154	3.9	Snowy	Marié Davy, Director.
Perpignan	29.37	746.0	29.48	748.7	53.1	11.7	52	NW	11.2	5.0	.....	.....	8	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P	21.91	556.6	.....	.....	20.7	— 6.3	.....	SW	.....	.....	6-8	.....	10	.....	.....	0.898	22.8	Snowy	Genl de Nansouty.
Toulouse, Observatory	28.76	730.5	29.47	748.6	46.0	7.8	80	ESE	.....	.....	1	.....	10	.....	.....	0.220	5.6	Raining	M. Mercadier Juller.
Tours	28.79	731.3	28 99	736.3	38.8	3.8	93	SSE	.....	.....	1	.....	10	.....	.....	0.528	13.4	Rainy	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	29.01	759.7	29.93	760.3	45.7	7.6	90	ESE	6.7	3.0	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 185 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-1	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.45	722.6	29.27	743.5	36.5	2.5	93	SE			4		8	SE		0.079	2.0	Snowing	Prof. Dr. Hoh.
Berlin	29.20	741.8	29.38	746.3	28.4	— 2.0	81	E			1		8			0.047	1.2		Prof. Arndt.
Breslau	28.94	735.1	29.47	748.4	35.4	1.9	76	SE			2		1			0.011	0.27		Royal University Obs'y
Carlsruhe	28.89	733.8	29.31	744.5	42.4	5.8	65	SW			4		10	SW		0.760	19.3		Albert Sens.
Cassel	28.62	727.0	29.21	742.0	37.4	3.0	89	SE			2		9	SW		0.044	1.13	Snowing	Dr. H. Möhl.
Crefeld	29.01	736.8	29.17	740.8	38.5	3.6	86	SW			4		8			0.24	6.		Director Lose.
Emden					30.6	— 0.8	87	E			2		5			0.20	5.		Prof. Prestel.
Frankfort on the Main	28.91	734.4	29.28	743.6	40.3	4.6		SSW			4		10			0.311	7.9		Physical Society.
Friedrichshafen	27.96	710.3	29.33	745.0	40.5	4.7	84	S			5		8	S		0.244	6.2	Snowi g	M. Wilhelm.
Hamburg	29.24	742.7	29.32	744.6	28.7	— 4.6	84	ESE			4		10			0.004	0.1	Hazy	Captain F. Hegemann.
Kiel	29.34	745.3	29.36	745.7	28.7	— 4.6	79	ENE			1		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.34	745.2	29.43	747.4	31.1	— 0.5	91	NW			3		10			0.008	0.2	Snowing	Prof. E. Luther.
Köslin			29 43	747.6	29.3	— 1.5		SE			2		4			0	0		H. Müller.
Leipsic, Observatory	28.89	733.8	29.32	744.6	34.5	1.4	82	ESE			2		10			0.024	0.6		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.37	746.0	29.42	747.2	29.3	— 1.5	88	NNE			1-2		10n						Skalweit.
Neufahrwasser	29.48	748.8	29.50	749.2	28.2	— 2.1	77	WNW			1		4			0.024	0.6		A. Lothes.
Posen	29.20	741.8	29.50	749.4	31.5	— 0.3	66	S			1		0			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	28.78	731.1	29.34	745.1	48.0	6.1	59	SW			3		10	WSW		0.220	5.58	Raining	Imp. University Observatory.
Stuttgart	28.40	721.4	29.51	744.4	41.0	5.0	54	W			2		8	W		0.154	3.9	Rain & snow	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.87	707.9	29.40	746.8	34.7	1.5	82	W	11	5			8ck	W	WSW	0.087	2.2		Dr. Van Bebber.
Wustrow, Naval School	29.39	746.5	29.31	747.1	22.3	— 5.4	90	ENE			2		3s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.52	749.7	29.91	759.8	754.3	12.4		NW			1.0							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.82	757.3	29.87	758.7	74.1	23.4	44	NNW	16	7.2			0			0	0	Blue sky	
Deesa	29.36	745.7	29.84	757.9	71.7	22.1	62	NW					0			0.29	7.4	Blue sky	
Bombay	29.80	756.9	29.84	757.9	77.4	25.2	67	NW	14	6.3			2	W		0	0	D. clouds	
Lahore	29.12	739.7	29.88	759.1	67.7	19.8	44	Calm	1.	0.4			6			0	0	Cloudy	
Belgaum	27.27	692.7	29.79	756.6	79.6	26.4	55	WSW	7	3.1			1			0	0	D. clouds	
Roorkee	28.96	735.4	29.89	759.1	62.8	17.1	62	Calm	0.6	0.3			10			0	0	Gloomy	
Agra	29.38	746.2	29.96	761.0	66.8	19.3	62	E								0	0		
Nagpur	28.77	730.7	29.82	757.3	78.6	25.9	32	E	2.9	1.3			9		E			Raining	
Lucknow	29.52	749.7	29.91	759.6	63.4	17.4	83	SW	1.1	0.5			10			0	0	Overcast	
Allahabad	29.68	751.4	29.90	759.5	68.3	20.2	73	SW	2.9	1.3			10			0	0	Overcast	
Patna	29.68	753.7	29.86	758.4	74.7	23.7	59	W	0.5	0.2			8	W	W	0	0	D. clouds	
Hazaribagh	27.83	706.8	29.88	758.9	69.0	20.6	38	NW	4.0	1.8			0			0	0	Blue sky	
Cuttack	29.74	755.5	29.83	757.6	80.5	26.9	56	S	1.9	0.8			7			0	0	D. clouds	
Calcutta (Alipore)	29.83	757.7	29.85	758.3	74.7	23.7	68	WNW	1.0	0.4			4			0	0	D. clouds	
Goalpara	29.42	747.4	29.82	757.4	73.6	23.2	54	W	1.1	0.5			1	W		0	0	D. clouds	
Chittagong	29.86	758.5	29.96	760.8	75.3	24.1	68	W	5.6	2.5			0			0	0		
Sibsagar	29.49	749.1	29.84	757.8	69.0	20.6	71	ENE	0.5	0.2			4			0	0	Blue sky	
Jubbulpore	28.51	724.1	29.93	760.2	59.9	15.5	83	NW	5.6	2.5			10			0.09	2.3	Thunder-storm	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.17	740.9	29.58	751.4	46.8	8.2	58	S	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.48	748.8	29.59	751.6	45.9	7.7	66	E	1.8	0.8	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.04	737.5	29.56	750.8	45.1	7.3	60	ENE	.....	.....	4	.....	9	NW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.64	727.5	29 56	750.7	47.5	8.6	43	ESE	6.9	3.1	.....	.....	8	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.60	701.1	29.51	749.6	43.7	6.5	44	WNW	.....	.....	4	.....	8	WNW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.38	746.2	29.57	751.0	53.1	11.7	63	E	6.9	3.1	.....	.....	10	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.44	747.8	29.70	754.3	54.5	12.5	64	SW	.....	.....	6	.....	10	SW	.....	0.465	11.8	.....	Cav. F Meucci
Leghorn	29.61	752.1	29.70	745.3	54.7	12.6	61	WSW	16.8	7.5	.....	.....	10	WSW	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.54	750.3	29.59	751.6	55.6	13.1	49	SW	25.5	11.4	.....	.....	8	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.64	752.9	29.82	757.3	56.3	13.5	57	S	18.1	8.1	.....	.....	9	.....	.....	0.063	1.6	.....	Prof. P S. Ferrari.
Lecce	29.62	752.3	29.87	758.8	56.3	13.5	78	SW	11.2	5.0	.....	.....	4	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.70	754.3	29.89	759.2	58.5	14.7	54	W	.....	.....	4	.....	4	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.08	738.5	29.97	761.1	50.7	10.4	72	NW	1.3	0.6	.....	.....	7	.....	.....	0.500	12.7	.....	Prof. D. Conti.
Palermo	29.73	755.2	29.98	761.6	60.3	15.7	42	WSW	18.1	8.1	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.94	760.5	30.02	762.4	61.2	16.2	46	W	11.2	5.0	.....	.....	5	WNW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.32	744.6	29.87	758.7	54.0	12.2	66	WNW	15.0	6.7	.....	.....	8	.....	.....	0.075	1.9	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.04	763.0	30.06	763.5	47.1	8.4	86	N	2.9	1.3	.....	.....	2ck	.....	.....	0.025	0.63	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.84	757.9	30.05	763.3	52.3	11.3	80	S	3.0	1.3	.....	.....	2s	.....	.....	0.060	1.52	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.92	759.9	29.99	761.7	40.5	4.7	86	S	2.5	1.1	.....	0	0	.....	.....	0	0	Clear	The Staff.

NOTE.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	5	.....	.....	0	0	.....	P. Ceballos.
Guadalajara	25.10	639.8	30.33	770.4	43.2	6.2	48	Calm	.....	.....	0	.....	5	.....	.....	0	0	½ clouded	Prof. L. Perez.
Leon	24.55	623.7	30.22	767.6	55.0	12.8	77	SW	.....	.....	1	8c	1s	SE	.....	0	0	Cloudy	Prof. M. Leal
Mexico, Central Obs'y	23.17	588.5	30.28	769.1	49.6	9.8	70	NW	3.4	1.5	.....	0	9k	.....	NE	Inap.	Inap.	Cloudy	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	53.6	12.0	80	NNW	.....	.....	1	8c	2ks	.....	NE	0	0	Fair	M. V. de Leon, M. E.
Tlacotalpam	30.19	766.7	30.20	767 0	70.5	21.4	59	N	.....	.....	3	2	4	.....	E	0	0	⅓ clouded	M. M. Cházaro.
San Luis Potosi	24.26	616.2	30.28	769.0	51.0	10.6	76	ESE	.....	.....	1	4	4	N	ESE	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	30.21	767.5	30.24	768.2	71.6	22.0	82	NNW	11.2	5.0	.....	2c	6ks	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.51	597.1	30.27	768.6	45.0	7.2	45	N	0.4	0.2	.....	7ck	.....	Calm	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.48	723.4	30.15	766.0	72.1	22.3	59	NE	.....	.....	3	0	8	.....	NW	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	30.05	763.2	30.18	766.6	73	22.8	.....	N	.....	.....	1	6n	4n	N	N	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.14	740.1	29.14	740.1	30.6	4.2	.....	WSW	.....	.....	.....	.....	.....	.....	.....	0.846	8.8	.....	
Groningen	29.16	740.4	29.19	741.4	31.1	— 0.5	.....	E	.....	.....	2	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.11	739.3	29.11	739.3	33.6	0.9	.....	E	.....	.....	3	.....	.....	.....	.....	0.138	3.6	.....	
Hellevoetsluis	29.11	739.3	29.11	739.3	38.7	3.7	93	WSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.08	738.7	29.13	739.9	39.4	4.1	92	S	.....	.....	3	.....	8	.....	.....	0.051	1.3	Very cloudy	H. v. d. Brink.

NOTE.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.31	744.5	29.37	745.9	30.9	— 0.6	73	S	13.9	6.2	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.43	747.5	29.47	748.5	28.4	— 2.0	70	ENE	27	12	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.39	746.6	29.55	750.6	9.7	—12.4	85	E	7	3	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.51	749.6	29.56	750.7	30.2	— 1.0	73	SW	18	8	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. G. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.13	765.4	30.33	770.3	59.7	15.4	87	W	8.7	3.9	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.0	30.10	764.5	52.3	11.3	75	SW	15.4	6.9	.....	.....	10	SW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.22	767.5	30.30	769.7	64.6	18.1	61	E	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.1	30.13	765.3	55.9	13.3	81	WSW	19.9	8.9	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.26	768.7	30.34	770.5	59.0	15.0	82	WNW	9.4	4.4	.....	.....	10	.....	.....	0.031	0.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.89	759.2	82.4	28.0	.....	SW	.....	.....	4	.....	5	.....	SW	4	SW.	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta. Porto Praya, Cape Verde Islands	.....	.....	29.98	761.6	77.7	25.4	.....	NE	.....	.....	4	.....	0	.....	.....	2	NE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.78	756.4	86.4	30.2	.....	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't. L. Ribeiro de Costa, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Tejo, Macao, China	.....	.....	30.01	762.2	67.1	19.5	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.05	737.9	29.48	748.9	30.7	— 0.7	79	WSW	4	2	.....	.....	7ck;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.83	732.3	29.26	743.1	32.2	— 0.1	85	W	9	4	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.06	738.1	29.31	744.4	30.2	— 1.0	98	NNE	11	5	.....	.....	10n	.....	.....	.....	.....	Light snow	Prof. Dr. Weihrauch.
St. Petersburg	29.36	745.8	29.38	746.2	29.8	— 1.2	92	ENE	13	6	.....	.....	10n	.....	.....	.....	.....	Snowing	Central Physical Obs.
Kieff	28.50	723.9	29.15	740.3	32.0	0.0	98	NW	18	8	.....	.....	10ks;n	.....	.....	.....	.....	Snowing	Physical Cabinet.
Nikolaiev	29.39	746.6	29.47	748.4	37.0	2.8	82	W	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.55	750.5	29.57	751.0	41.9	5.5	94	WNW	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Moscow	28.86	731.6	29.37	745.9	33.8	1.0	96	S	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.09	738.9	29.29	744.0	49.3	9.6	67	SSW	13	6	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	28.82	757.5	29.84	758.0	9.0	—12.8	80	ENE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.19	715.9	29.58	751.2	58.1	14.6	44	NW	4	2	.....	.....	9n	.....	.....	.....	.....	Heavy clouds	Physical Observatory
Astrakhan	29.59	751.6	29.51	749.5	39.9	4.4	77	ENE	9	4	.....	.....	7c;ks	.....	.....	.....	.....	.....	Capt. Wisganow.
Irotkowo*	29.25	742.9	29.73	755.2	32.0	0.0	83	E	13	6	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.49	749.1	29.77	756.2	28.4	— 2.0	73	Calm	0	0	.....	.....	6	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Ekaterinburg	29.10	739.1	30.13	765.3	17.4	— 8.1	94	ESE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.46	748.2	29.69	754.0	67.6	19.8	16	WSW	0	0	.....	.....	1cs	.....	.....	.....	.....	.....	
Tashkend	28.30	718.8	29.97	761.3	61.9	16.6	34	N	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.73	755.2	30.28	769.2	7.0	—13.9	85	SSW	0	0	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Yeniseisk	29.93	760.2	30.26	768.5	— 4.4	—20.2	85	W	7	3	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	30.08	763.9	30.22	767.5	16.2	— 8.8	45	SE	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.25	768.3	30.35	770.8	— 7.6	—22.0	77	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.61	752.1	29.72	754.8	55.0	12.8	47	WSW	10.6	4.72	.....	.....	1ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.61	752.2	29.67	753.7	52.5	11.4	75	NW	7.5	3.37	.....	1	7	N	.....	0.283	7.2	Raining	Prof. Manuel de Navera.
Burgos, Met. Obs'y	26.68	677.8	.....	.....	42.1	5.6	91	SW	22.3	9.98	.....	0	10	.....	.....	0.472	12.0	Rainy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.62	701.5	.....	.....	45.0	7.2	85	SW	46.2	20.67	.....	.....	.....	.....	.....	0	0	Covered	The Staff.
Murcia, Met. Obs'y	29.79	756.7	29.94	760.5	66.7	19.3	48	SE	3.6	1.61	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.90	734.0	29.80	756 9	50.7	10.4	74	NW	15.4	6.9	.....	.....	8	.....	.....	1.079	27.4	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I.	30.15	765.7	30.21	767.4	66.0	18.9	70	NNE	14.8	6.6	.....	0	5k	.....	NNE	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	756.1	29.82	757.4	81.1	27.3	78	SSE	1.1	0.5	.....	.....	2s	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.14	765.6	30.25	768.2	56.7	13.7	71	WNW	6.3	2.3	.....	0	8	.....	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	75.6	24.2	92	SE	3.5	1.56	.....	2k	1k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.2	29.73	755.2	21.6	— 5.8	.....	E	.....	.....	2	.....	10	.....	.....	0.118	3.0	.....	
Umea	29.61	752.0	29.66	753.3	23.4	— 4.8	95	N	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.58	751.2	29.63	752.5	17.6	— 8.0	88	N	.....	.....	2	.....	10	.....	.....	0.217	5.5	.....	
Stockholm	29.34	745.1	29.51	749.6	11.8	—11.2	93	N	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	29.42	747.3	29.48	748.8	26.6	— 3.0	87	E	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.47	748.4	29.54	750 3	2.1	—16.6	100	WNW	0	0	.....	.....	4	SSE	.....	0.111	2.82	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.99	711.0	29.45	748.1	42.8	6.0	69	S	.....	.....	4	.....	10	.....	.....	0.031	0.8	Raining.....	The Observatory.
Zurich	27.78	705.6	29.47	748.4	40.5	4.7	82	SW	.....	.....	1	.....	8	.....	.....	0.071	1.8	Cloudy.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —15.0 mm.; Thermometer, +1.8 Cent.; Relative Humidity, —1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	757.9	50.5	10.3	68	SSW	11	5.0	.....	.....	5	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.92	759.9	53.2	11.8	.....	E	.....	.....	1	.....	5	.....	.....	0.39	10.	Cloudy.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.83	757.7	29.94	760.5	64.0	17.8	72	SW	.....	.....	2	.....	8n	.....	SW	0.03	0.8	D. clouds.....	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.39	771.9	30.46	773.7	—15.5	—26.4	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	Hon. J. Ferguson.
Brockville, Ontario	29.78	755.1	30.06	763.5	12	—11.1	.....	E	4	1.8	.....	.....	10n	.....	NE	0.20	5.1	Light snow..	W. R. Bigg.
*Chatham, N B	30.42	772.6	30.49	774.4	—16	—26.7	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.39	771.9	30.44	773.2	4	—15.6	100	NE	4	1.8	.....	.....	8ks	.....	E	0.05	1.3	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.05	763.3	10.0	—12.2	92	NE	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Overcast.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.60	15.2	.....	W. H. Bevis.
*Father Point, Quebec	30.37	771.4	30.39	771.9	— 1	—18.3	91	SE	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	J. McWilliams.
Fredericton, N. B	30.37	771.4	30.44	773.2	1.9	—16.7	80	NE	1	0.4	.....	10cs	0	.....	.....	Inap.	Inap.	Overcast	Prof. Harrison.
*Fort Garry Manitoba	29.80	756.9	30.81	782.6	—30	—34.4	100	S	2	0.9	.....	0	2s	.....	S	0	0	Fair	James Stewart.
Granton, Ontario	28.85	732.8	30.04	763.0	12	—11.1	.....	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.17	766.3	30.32	770.1	6	—14.4	95	N	8	3.6	.....	.....	10ks	.....	N	Inap.	Inap.	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.61	749.5	29.91	759.7	17.7	— 7.9	92	SW	.....	.....	1	10cs	0	W	.....	0.22	5.6	Snowing.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753 4	30.03	762.8	11	—11.7	86	N	9	4.0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow.	S. Woods, M. A.
Little Glace Bay, N. S	30.33	770.4	30.37	771.4	18.4	— 7.6	92	NE	10	4.5	.....	.....	10n	.....	.....	Inap	Inap.	Overcast.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.91	759.7	30.13	765.3	11	—11.7	90	E	8	3.6	.....	.....	10n	.....	.....	0.02	0.5	Light snow.	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	30.08	764.0	12	—11.1	80	N	24	10.7	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	30.01	762.2	13.6	—10.2	82	NE	.....	.....	.....	.....	10n	.....	.....	0.20	5.1	Snowing.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.25	742.9	29.99	761.7	16	— 8.9	98	NW	11	4.9	.....	10ck	0	W	.....	0.40	10.2	Fair	H. Morgan.
Port Hastings, N. S	30.30	769.6	30.35	770.9	9.7	—12.4	.....	E	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.33	745.0	30.02	762.5	19	— 7.2	87	W	10	4.5	.....	.....	10n	.....	NW	0.34	8.6	Cloudy.....	M. Payne.
*Quebec, Quebec	29.94	760 5	30.29	769.4	8	—13.3	100	NE	.....	.....	6	.....	10n	.....	NE	0	0	Cloudy	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.66	753.4	30.16	766.1	12	—11.1	71	N	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow.	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	25	— 3.9	82	NW	.....	.....	1	Haze	Haze	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.18	766.6	30.37	771.4	2	—16.7	100	NE	12	5.4	.....	.....	10s	.....	.....	0	0	Overcast.....	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.08	764.0	17	— 8.3	91	N	27	12.1	.....	.....	8ks	.....	NE	0.07	1.8	Light snow..	K. Stewart.
Stayner, Ontario	29.21	741.9	30.05	763.3	15	— 9.4	98	N	9	4.0	.....	.....	10n	.....	N	0.18	4.6	Light snow..	R. J. Cole.
Stratford, Ontario	28.66	728.0	30.06	763.5	11.0	—11.7	92	NW	5	2.2	.....	2cs	6s	NW	.....	0.20	5.1	Cloudy.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.36	771.1	30.40	772.1	16	— 8.9	79	NE	4	1.8	.....	8k	2ks	SE	E	0.02	0.5	Fair	T. C. Hill.
*Toronto, Ontario	29.56	750.8	29.97	761.2	19	— 8.9	90	N	20	8.9	.....	.....	10n	.....	Calm	0.460	11.43	Cloudy.	Magnetic Observatory.
Windsor, N. S	30.27	768.8	30.38	771.6	— 1.0	—18.3	100	E	4	1.8	.....	2cs	0	.....	.....	0	0	Fine	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	16.0	— 8.9	100	NE	.....	.....	.....	10.	10	.....	.....	0.63	0.8	Overcast.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inch's.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.77	756.1	30.02	762.5	15	— 9.4	91	N	2	0.9	.....	.....	10n	.....	Calm	0.08	2.0	Light snow.	
Alpena, Michigan	29.52	749.8	30.22	767.6	14	—10.0	82	NW	15	6.7	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	
Atlanta, Georgia	29.09	738.9	30.30	769.6	36	2.2	53	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.92	760.0	29.94	760.5	30	— 1.1	100	N	4	1.8	.....	.....	10n	.....	Calm	0.20	5.1	Light snow.	
Augusta, Georgia	30.03	762.8	30.22	767.6	41	5.0	65	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.91	759.7	29.96	761.0	32	0.0	89	SE	3	1.3	.....	2k	5s	Calm	Calm	0.13	3.3	Clearing	
Barnegat, New Jersey	29.88	758.9	29.90	759.4	30	— 1.1	100	E	4	1.8	.....	.....	10n	.....	Calm	0.18	4.6	Heavy snow	
Bismarck, Dakota	28.46	722.9	30.31	769.9	— 8	—22.2	100	SE	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Boerne, Texas	28.64	732.5	30.19	766.8	51	10.6	100	S	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Boise City, Idaho	27.22	691.4	30.18	766.6	45	7.2	76	SE	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Boston, Massachusetts	29.90	759.4	30.07	763 8	18	— 7.8	100	N	14	6.3	.....	.....	10n	.....	Calm	0.36	9.1	Heavy snow	
Brackettville, Texas	29.17	740 9	30.22	767.6	55	12.8	87	NE	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Breckenridge, Minnesota	29.53	750.0	30.74	780.8	—21	—29.4	85	N	4	1.8	.....	10cs	0	Calm	.....	0	0	Cloudy	
Brownsville, Texas	30.25	768.3	30.32	770.1	68	14.4	94	E	4	1.8	.....	.....	0	.....	.....	0	0	Clear	
Buffalo, New York	29.18	741.2	29.91	759.7	21.5	— 5.8	86	W	5	2.2	.....	.....	10n	.....	NW	0.23	5.8	Light snow.	
Burkes, Arizona	.....	.....	.....	.....	49	9.4	31	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.80	756.9	30.11	764.8	18	— 7.8	84	S	1	0.4	.....	.....	10n	.....	Calm	0.02	0.5	Light snow.	
Cairo, Illinois	30.13	765.3	30.55	776.0	30	— 1.1	68	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.35	643.9	30.15	765.8	54	12.2	38	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	39	3.9	38	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.56	700.0	30.13	765.3	32	0.0	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.97	761.2	29.98	761.5	38	3.3	91	NW	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Cape Henry, Virginia	29.90	759.4	29.92	760.0	33	0.6	89	W	8	3.6	.....	.....	10n	.....	Calm	0.10	2.5	Light snow.	
Cape Lookout, N. Carolina	29.95	760.7	29.97	761.2	45	7.2	68	W	33	14.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Cape May, New Jersey	29.89	759.2	29.92	760.0	33	0.6	79	E	6	2.7	.....	.....	10n	.....	Calm	0.11	2.8	Light snow.	
Castroville, Texas	29.53	750.0	30.28	769 1	46	7.8	92	W	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Charleston, South Carolina	30.10	764.5	30.16	766.1	44	6.7	52	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.99	609.3	29.91	759.7	43	6.1	36	W	12	5.4	.....	5ck	0	W	.....	0	0	Fair	
Chicago, Illinois	29.63	752.6	30.39	771.9	20	— 6.7	85	NW	12	5.4	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Cincinnati, Ohio	29.60	751.8	30.30	769.6	27	— 2.8	82	NW	13	5.8	.....	.....	9n	.....	NW	0.02	0.5	Light snow.	
Cleveland, Ohio	29.33	745.0	30.10	764.5	20	— 6.7	85	NW	18	8.0	.....	.....	10n	.....	Calm	0.23	5.8	Light snow.	
Coleman City, Texas	28.54	724.9	30.32	770.1	33	0.6	89	S	9	4.0	.....	0	Haze	.....	.....	0	0	Hazy	
Columbus, Ohio	29.28	743.7	30.17	766.3	24	— 4.4	74	W	23	10.3	.....	2k	5ks	W	W	0.04	1.0	Fair	
Corpus, Texas	28.31	719.1	30.07	763.8	33	0.6	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.85	758.2	30.34	770.6	44	6.7	84	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.83	757.7	30.55	776.0	6	—14.4	76	W	7	3.1	.....	0	0	.....	.....	0.05	1.3	Clear	
Deadwood, Dakota	25.35	643.9	.....	.....	42	5.6	66	S	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Decatur, Texas	29.17	740 9	30.32	770.1	37	2 8	92	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.54	750.3	30.38	771.6	38	3.3	81	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.94	633.5	30.16	766.1	36	2.2	71	SE	8	3.6	.....	9c	0	Calm	.....	0	0	Fair	
Des Moines, Iowa	29.64	752.8	30.68	778.0	6	—14.4	76	N	7	3.1	.....	0	2s	.....	N	0	0	Clear	
Detroit, Michigan	29.40	746.7	30.12	765.0	19	— 7.2	85	NW	6	2.7	.....	0	2s	.....	Calm	0.25	6.3	Fair	
Dodge City, Kansas	27.75	704.8	30.22	767.6	25	— 3.9	87	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.76	755.9	30.55	776.0	5	—15.0	60	N	6	2.7	.....	5cs	0	Calm	.....	0.02	0.5	Fair	
Duluth, Minnesota	29.93	760.2	30.74	780.8	—12	—24.4	74	NW	12	5.4	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Eagle Pass, Texas	29.50	749.3	30.29	769.4	48	8.9	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.21	767.3	30.28	769.1	12	—11.1	100	NE	26	11.6	.....	.....	10n	.....	NE	0.07	1.8	Light snow.	
Edinburg, Texas	.....	.....	.....	.....	53	14.4	88	Calm	.....	.....	0	5cs	2s	Calm	Calm	0	0	Fair	
El Paso, Texas	26.44	671.6	.....	.....	30	— 1.1	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.23	742.4	29.99	761.7	20	— 6.7	100	W	7	3.1	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Escanaba, Michigan	29.72	754.9	30.46	773.7	2	—16.7	72	N	22	9.8	.....	0	5s	.....	N	0.43	10.9	Fair	
Florence, Arizona	28 67	726.4	30.20	767.1	49	9.4	57	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.03	711.9	.....	.....	3	—16.1	78	SE	.....	.....	4	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort Craig, New Mexico	25.74	653.8	29.80	756.9	34	1.1	61	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.46	646.7	30.42	772.6	38	3.3	63	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.89	759.2	30.47	773.9	32	0.0	59	NE	4	1.8	.....	2c	0	NW	.....	0	0	Fair	
Fort Griffin, Texas	29.06	738.6	30.46	773.7	32	0.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.43	696.7	.....	.....	8	—13.3	66	Calm	0	0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Fort McKavett, Texas	28.06	712.7	30.04	763.0	46	7.8	77	E	2	0.9	.....	.....	10s	.....	E	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.15	740.4	30.35	770.9	29	— 1.7	89	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.40	721.3	.....	.....	—10	—23.3	77	S	.....	.....	4	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fredericksburg, Texas	28.57	725.7	30.18	766.6	51	10.6	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Foggy	
Galveston, Texas	30.35	770.9	30.39	771.9	53	11.7	86	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Graham, Texas	29.25	742.9	30.38	771.6	31	— 0.6	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.63	752.6	30.33	770.4	22	— 5.6	72	N	17	7.6	.....	0	5s	.....	N	0.12	3.0	Fair	
Indianapolis, Indiana	29.50	749.3	30.34	770.6	20	— 6.7	70	NW	4	1.8	.....	2k	2s	NW	NW	0.07	1.8	Fair	
Indianola, Texas	30.33	770.4	30.36	771 1	56	13.3	94	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.96	735.6	30.14	765.5	40	4.4	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.26	768.6	30.28	769.1	43	5.1	75	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.88	758.9	30.58	776.7	11	—11.7	80	N	8	3.6	.....	1k	0	NW	.....	0	0	Clear	
Key West, Florida	30.21	767.3	30.24	768.1	61	16.1	77	N	24	10.7	.....	5k	0	N	.....	0	0	Fair	
Kittyhawk, North Carolina	29.92	760.0	29.94	760.5	33	0.6	100	W	15	6.7	.....	.....	10n	.....	W	0.05	1.3	Light snow.	
Knoxville, Tennessee	29.28	743.7	30.26	768.6	28	— 2.2	66	N	8	3.6	.....	.....	Haze	.....	Calm	Inap.	Inap.	Clear	
La Crosse, Wisconsin	29.74	755.4	30.57	776.5	9	—12.8	78	N	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
La Mesilla, New Mexico	26.27	667.2	30.42	772 6	36	2.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.87	758.7	30.22	767.6	60	15.6	77	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.63	752.6	30.55	776.0	23	— 5.0	66	N	3	1.3	.....	.....	9s	.....	NW	0	0	Cloudy	
Los Angeles, California	29.75	755.6	30.09	764.3	52.0	11.1	66	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.77	756.1	30.37	771.4	26	— 3.3	75	W	11	4.9	.....	0	5s; sm	.....	Calm	Inap.	Inap.	Smoky	
Lynchburg, Virginia	29.32	744.7	30.03	762.8	32	0.0	79	NW	12	5.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Madison, Wisconsin	29.40	746.7	30.50	774.7	12	—11.1	80	N	13	5.8	.....	.....	10s	.....	N	0.09	2.3	Cloudy	
Marquette, Michigan	29.74	755.4	30.54	775.7	4	—15.6	100	NW	12	5.4	.....	.....	10n	.....	Calm	0.54	13.7	Light snow.	
Mason, Texas	28.67	728.2	30.52	775.2	38	3.3	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	30.18	766.6	30.52	775.2	33	0.6	61	N	4	1.8	.....	1c	Sm'e	Calm	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.63	752.6	30.44	773.2	12	—11.1	80	NW	12	5.4	.....	0	1s	.....	Calm	0.11	2.8	Clear	
Mobile, Alabama	30.37	771.4	30.41	772.4	41	5.0	82	S	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear	
Montgomery, Alabama	30.14	765.5	30.39	771.9	39	3.9	81	NW	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Morgantown, West Virginia	28.94	735.1	30.02	762.5	36	2.2	89	SW	5	2.2	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Mt. Washington, N. H.	23.47	596.1	29.83	757.7	10	—12.2	100	SE	50	22.4	.....	.....	Fog	.....	SE	0	0	Foggy	
Nashville, Tennessee	29.86	758.4	30.43	772.9	30	— 1.1	78	W	2	0.9	.....	5cs	0	NW	.....	0.01	0.3	Fair	
New Haven, Connecticut	29.88	758.9	30.00	762.0	20	— 6.7	92	NE	17	7.6	.....	.....	10n	.....	.....	0.30	7.6	Heavy snow	
New London, Connecticut	29.95	760.7	30.01	762.2	23	— 5.0	86	NE	11	4.9	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
New Orleans, Louisiana	30.32	770.1	30.39	771.9	47	8.3	62	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.99	761.7	30.04	763.0	23	— 5.0	86	NW	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light snow.	
New York, New York	29.78	756.4	29.97	761.2	26	— 3.3	88	NE	22	9.8	.....	.....	10n	.....	Calm	0.15	3.8	Light snow.	
Norfolk, Virginia	29.88	758.9	29.94	760.5	33	0.6	89	SW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.36	694.9	30.28	767.8	7	—13.9	83	Calm	0	0	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Olympia, Washington Ter.	29.66	753.4	29.70	754.4	50.2	10.1	93	S	9	4.0	.....	.....	10n	.....	.....	1.26	32.0	Light rain	
Omaha, Nebraska	29.36	745.7	30.58	776.7	14	—10.0	82	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Oswego, New York	29.64	752 8	29.97	761.2	28	— 2.2	77	SE	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Pembina, Dakota	29.76	755.9	30.78	781.8	—33	—36.1	100	Calm	0	0	.....	.....	10s	.....	Calm	Inap	Inap.	Cloudy	
Philadelphia, Pa	29 90	759.4	29.96	760.7	25	— 3.9	87	NE	11	4.9	.....	.....	10n;fg	.....	Calm	0.06	1.5	Light snow	
Phœnix, Arizona	28.96	735 6	30.80	782.3	51	10.6	53	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.70	449.6	29.92	760.0	14	—10.0	28	NW	16	7.2	..	5cs	0	Calm	.....	0	0	Fair	
Ploche, Nevada	24.23	615.4	30.00	762.0	40	4.4	39	SW	1	0.4	.. ..	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.17	740.9	30.03	762.8	22	— 5.6	86	NW	11	4.9	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Port Huron, Michigan	29.37	746.0	30.08	764.0	21	— 6.1	86	N	12	5.4	.....	.....	10n	.....	Calm	0.16	4.1	Light snow	
Portland, Maine	30.11	764.8	30.16	766.1	18	— 7.8	84	N	16	7.2	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Portland, Oregon	29.81	757.2	29.91	759.7	52.5	11.4	90	S	13	5.8	.....	0	8s	.....	S	0.14	3.6	Threatening	
Prescott, Arizona	24.91	632.7	30.27	768 8	32	0.0	59	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.16	740.7	29.99	761.7	50	10.0	72	SE	10	4.5	.....	8k	2s	S	SE	0	0	Smoky	
Punta Rassa, Florida	30.28	769.1	30.30	769.6	48	8.9	70	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.74	755 4	30.11	764.8	54	12.2	93	NW	4	1.8	.....	0	0s	.....	Calm	0	0	Fair	
Rio Grande City, Texas	30.15	765.8	30.38	771.6	62	16.7	83	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.27	743.4	29.91	759.7	23	— 5.0	86	S	4	1.8	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Roseburg, Oregon	29.43	747.5	30.00	762.0	46.0	7.8	92	E	2	0.9	.....	0	8s	.....	Calm	0	0	Fair	
Sacramento, California	30.03	762.8	30.11	764.8	51	10.6	97	SE	4	1.8	.....	0	Fog	....	Calm	0	0	Clear	
St. Louis, Missouri	29.92	760.0	30.55	776.0	22	— 5.6	72	NW	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
St. Marks, Florida	30.32	770.1	30.34	770.6	36	2.2	90	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.66	753.4	30.63	778.0	— 3	—19.4	66	NW	4	1.8	.....	2cs	0	Calm	.....	Inap	Inap.	Fair	
Salt Lake City, Utah	25.82	655.8	30.18	766.6	41	5.0	57	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.62	752.3	30.22	767.6	49	9.4	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
San Diego, California	30.04	763.0	30.11	764.8	52.5	11.4	73	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.42	747.2	30.14	765.5	20	— 6.7	85	NW	28	12.5	.....	.....	10s	.....	NW	0.14	3.6	Cloudy	
Sandy Hook, New Jersey	29.91	759.7	29.94	760.5	27	— 2.8	88	NE	24	10.7	.....	.....	10n	.....	NE	0.05	1.3	Light snow	
San Francisco, California	30.06	763.5	30.13	765.3	52	11.1	93	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.46	595.9	30.00	762.0	33	0.6	61	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.14	765.5	30.24	768.1	42	5.6	66	NW	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	30.20	767.1	30.43	772.9	42	5.6	74	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.38	619 2	30.74	780.8	35	1.7	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.05	763.3	30.09	764.3	40	4 4	82	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.91	759.7	30.05	763.3	21	— 6.1	71	NE	6	2.7	.....	.....	10n	.....	NE	0.05	1.3	Light snow	
Stockton, Texas	27.17	690.1	30.17	766.3	46	7.8	77	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.87	758.7	29.93	760.2	29	— 1.7	100	NE	24	10.7	.....	.....	10n	.....	NE	0.27	6.9	Heavy snow	
Toledo, Ohio,	29.43	747.5	30.17	766.3	20	— 6.7	70	NW	10	4.5	.....	0	0	.....	.....	0.08	2.0	Clear	
Tucson, Arizona	27.68	703.1	30.22	767.6	48	8.9	49	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.64	750.3	30.05	763.3	31.0	— 0.6	89	W	2	0.9	.....	.....	10s	.....	W	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	22	— 5.6	85	NW	.....	.....	7	.....	10s	.....	NW	0	0	Cloudy	
Uvalde, Texas	29.39	746.5	30.22	767.6	50	10.0	86	SE	4	1.8	.....	5k	0	S	...	0	0	Fair	
Vicksburg, Mississippi	30.20	767.1	30.48	774.2	40	4.4	82	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Virginia City, Montana	24.24	615.7	29.72	754.9	42	5.6	50	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.78	756.4	30.11	764.8	49	9.4	85	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.86	758 4	29.98	761.5	29	— 1.7	78	NW	9	4.0	.....	2ck	0	NW	.....	0.11	2.8	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	43	6.1	67	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.97	761.2	30.05	763.3	38	3.3	71	W	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	29.73	653.5	30.14	765.5	36	2.2	71	E	5	2.2	.....	0	8s	.....	Calm	0	0	Cloudy	
Wood's Holl, Mass	29.94	760.5	29.98	761.5	30	— 1.1	89	E	4	1.8	.....	.....	10n	.....	.....	0.06	1.5	Heavy snow	
Yankton, Dakota	29.21	741.9	30.68	779.3	6	—14.4	76	NE	5	2.2	.....	10ck	0	NW	.....	0	0	Cloudy	
Yuma, Arizona	29.90	759.4	30.00	762.5	59	15.0	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.82	732.0	30.35	770.9	27	— 2.8	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba. W. I	30.16	766.1	30.21	767.3	68	20.0	64	NW	6.0	2.7	.....	0	8ks	.....	N	0	0	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.98	761.5	30.06	763.5	78	25.6	.....	NE	8.3	3.7	.....	.....	.....	.....	.....	0	0	Fair	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	79	26.1	91	E	.....	.....	3	.....	10n	.....	.....	0.700	17.78	Raining	O. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.09	764.3	30.14	765.5	—24.0	—31.1	.....	SE	19	8.5	.....	.....	10s	.....	E	0.01	0 3	Snowing	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft.. or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066,8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettoville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,500 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,060 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.08	764.0	53.5	11.9	49.5	9.7	100	W	8	3.6	.....	.....	Fog	.....	.....	0	0	.....	.....	Foggy	
Navy Yard, Pensacola, Fla.	30.32	770.1	40	4.4	40	4.4	82	N	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.09	764.3	53	11.7	16	— 8.9	83	NE	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Naval Hospital, Yokohama, Japan.....*	29.98‡	761.5‡	.....	.....	44.2	6.8	76	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Panama	30.00	762.0	80	26.7	79	26.1	95	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Alaska. N. 27° 40′, W. 110° 50′.....	30.16	766.1	69	20.6	61	16.1	88	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Alliance. Villafranca, France.....	29.64‡	752.8‡	.....	.....	55	12.8	24	WSW	.....	.....	2–4	.....	10	.....	S	.....	.....	Light	S	Threatening	
Ashuelot, Hong-Kong, China.	29.92‡	760.0‡	.....	.....	62	16.7	88	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La.....	30.35	770.9	39	3.9	46	7.8	100	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado New York, N. Y.....	29.95	760 7	24	— 4.4	23	— 5.0	100	NE	14	6.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Constitution. Lisbon, Portugal.....	30.12‡	765.0‡	.....	.....	56	13.3	100	WSW	.....	.....	4	.....	10	.....	Calm	.....	.....	.....	.....	Showery.....	
Despatch, Constantinople, Turkey	29.82‡	757.4‡	.....	.....	56	13.3	43	SW	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.....	30.07	763.8	67	19.4	34	1.1	90	WSW	6	2.7	.....	.....	5	.....	Calm	0	0	.....	.....	Hazy	
Gettysburg, Genoa, Italy	29.69‡	754.1‡	.....	.....	56	13.3	94	SSW	.....	.....	5	.....	10	.....	SSW	Blank	Blank	Mod'ate	SW	Squally.....	
Hartford, Montevideo, Uruguay...	29.86	758.4	72	22.2	74	23.3	59	WNW	.....	.....	4	.....	2	.....	.....	0	0	Smooth	.....	Fair	
Lackawana, Panama.....*	29.76‡	755.9‡	.....	.....	77	25.0	91	NNW	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Fair	
Michigan. Erie, Pa.....†	29.90	759.4	.....	.....	23	— 5.0	86	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Shanghai, China.....*	29.98‡	761.5‡	.....	.....	47	8.3	85	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monongehela, Yokohama, Japan ....*	29.95‡	760.7‡	.....	.....	41	5.0	100	W	.....	.....	0–1	.....	0	.....	.....	0	0	.....	.....	Misty.....	
New Hampshire, Port Royal, S. C.....	30.21	767.3	45	7.2	44	6.7	100	WNW	28	12.5	.....	.....	10	.....	WNW	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....†....	30.03	762 8	.....	.....	68	20.0	95	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.08	764.0	17	— 8.3	16	— 8.9	100	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	30	— 1.1	78	W	.....	.....	4	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
Pensacola. S. 32° 52′, W. 99° 00′.....	30.32‡	770.1‡	.....	.....	69	20.6	85	SSE	8	3.6	.....	.....	8	.....	SE	0	0	Long	S	Cloudy.....	
Powhatan, N. 18° 23′, W. 74° 33′, ...	30.12	765.0	79	26 1	78	25.6	82	N	.....	.....	3	.....	5	.....	N	0	0	Smooth	.....	Clear.	
Quinnebaug, Villafranca, France.....	29.62‡	752 3‡	.....	.....	55	12.8	55	WSW	.....	.....	3	.....	10	....	W	.....	.....	Ground	S	Cloudy.....	
Ranger. Kobe, Japan.....*	30.05‡	763.3‡	.....	.....	53	11.7	73	NE	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Richmond, Villefranca, France.....	29.67‡	753.6‡	.....	.....	56	13.3	51	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Long	S	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	30.23	767.8	60	15.6	59	15.0	94	E	.....	.....	1	.....	1	.....	SE	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md..	29.93‡	760.2‡	.....	.....	32	0.0	.....	NW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa.....	29.88	758.9	56	13.3	27	— 2.8	.....	NE	5	2.2	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Supply. N. 21° 51′, W. 44° 20′.....	30.14‡	765.5‡	.....	.....	74	23.3	86	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Smooth	.....	Clear	
Trenton Villafranca, France.....	29.63‡	752.6‡	.....	.....	58	14.4	58	SW	.....	.....	2–3	.....	10	.....	S;W	0	0	Long	S	Cloudy.....	
Tuscarora. Acapulco, Mexico.....	30.02‡	762.5‡	.....	.....	77	25.0	73	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Wabash Boston, Mass.....	30.11‡	764 8‡	.....	.....	19	—7.2	84	N	18	8.0	.....	.....	10	.....	.....	.....	.....	.....	.....	Snowing.....	
Wyoming, Smyrna, Turkey.....	29.89‡	759.2‡	.....	.....	58	14.4	76	NW	.....	.....	2–3	.....	2	.....	NW	.....	.....	Smooth	NW	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; correction is applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 10° 29', W. 86° 24'....†		29.09‡	761.7‡	80	26.7	82	NNE			4–5		5		ENE		Mod'ate	N	D. clouds	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			Capt. Austin.
S. S. Georgia																			Capt. A. Fuller.
S. S. Granada																			R. C. Ghest, 1st Officer.
S. S. Wilmington																			
S. S. Zealandia, N. 24° 36', W. 152° 20'		30.18‡	766.6‡				E			3				SE		Long; mod'ate	NNW; ESE	Light clouds	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kenney.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 31° 40', E. 131° 40'....*		29.91‡	759.7‡	62	16.7	56	NW			4		k		NW		Mod'ate	NW	Hazy	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 18', W. 132° 00'....†		29.97‡	761.2‡	59	15.0	82	SW			5		k		Var.	Blank	Heavy	NW	Overcast	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *The error of the barometer is not known. †Aneroid. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 52° 1', E. 2° 36'		29.13‡	739.9‡	43	6.1	96	WSW			5		10		NW		High	NW	Rainy	Capt. C. Undütsch.
S. S. Leipzig, N. 40° 49', W. 64° 51'		30.12‡	765.0‡	41.0	5.0		NE			5		10		NE	0	6	NW	Hazy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		29 96‡	761.0‡	30	— 1.1		ENE			6		9		NE	Blank			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool							NE			2		10		NE	Blank			Cloudy	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 42° 00', W. 65° 43'		30.18‡	766.6‡	28	— 2.2		ENE			5		88		ENE	0	Light	ENE	Overcast	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 21, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.7	59.7	15.4	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.00	763.4	65.8	18.8	88	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.84	757.9	64.4	18.0	67	W	.....	.....	6	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.82	757.5	57.7	14.3	78	NW	.....	.....	8	.....	10	.....	.....	0.106	2.7	Raining	Foufrede.
Tunis	.....	.....	29.92	760.0	60.4	15.8	62	NW	.....	.....	4	.....	10	.....	.....	0.059	1.5	Covered	Jacques.
Sfax	.....	.....	29.93	760.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.99	761.7	64.0	17.8	18	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.97	761.1	60.8	15.7	36	W	.....	.....	7	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.00	762.1	59 4	15.2	96	NW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	30.02	762.4	67.6	19.8	20	W	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.94	760 5	71.2	21.8	39	NW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.78	731.0	29.34	745.1	39.6	4.2	87	NE	.....	.....	2	.....	10	.....	.....	0.189	4.8	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.38	720.9	29.15	740.4	39.6	4.2	90	ENE	.....	.....	1	.....	10	.....	.....	0.083	2.1	.....	Dr. Wierzbiski
Eperies	28.31	719.1	29.20	741.6	37.4	3.0	95	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.02	711.8	29.27	743.4	41.9	5.5	63	SE	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	27.86	707.7	29.29	744.0	39.6	4.2	76	SE	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.02	711.6	29.37	745.9	39.0	3.9	89	W	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.25	717.6	29.24	742.7	40.6	4.8	60	SE	.....	.....	1	.....	8	.....	.....	0.272	6.9	.....	Dr. T. Stanecki.
Pola	29.26	743.2	29.37	746.1	47.8	8.8	76	WNW	.....	.....	1	.....	2	.....	.....	0.043	1.1	.....	I.R.Hydrographic Office.
Szathmar	28.84	732.4	29.30	744.3	41.4	5.2	66	E	.....	.....	3	.....	10	.....	.....	0.661	16.8	.....	Julius Csics, S. J.
Szegedin	28.91	734.4	29.20	741.6	38.8	3.6	97	S	.....	.....	4	.....	10	.....	.....	0.069	1.75	.....	Karl Stancel.
Trieste	29.26	743.3	29.37	745.9	48.4	9.1	61	S	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	28.54	724.9	29.26	743.2	41.0	5.0	39	W	.....	.....	6	.....	9	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	28.91	734.2	29.11	739.4	38.1	3.4	94	SSW	.....	.....	1	.....	10	.....	SW	0.069	1.75	Light rain	Royal Observatory
Furnes	29.08	738.6	29.10	739.2	38.7	3.7	94	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Rainy	M. E. de Cae.
Maeseyck	29.08	737.3	29.15	740.5	35.6	2.0	97	SW	.....	.....	2	.....	10	.....	.....	0.043	1.1	Raining	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.22	742.2	29.32	744.7	34.0	1.1	.....	SSE	12	5.4	.....	.....	9	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	29.22	742.2	29.24	742.7	37	2.8	.....	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Blue sky.....	William McNeil.
Armagh, Observatory	.....	.....	29.22	742.2	37.0	2.8	.....	S	8	3.6	.....	.....	7	.....	.....	Blank	Blank	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.25	742.9	34.8	1.6	.....	ESE	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton, (Sharples)	.....	.....	29.25	742.9	33.8	1.0	.....	NNE	18	8.0	.....	.....	10	.....	.....	.....	.....	Snowing.....	Thomas Mackereth.
Bradford, Yorkshire	28.89	733.8	29.28	743.7	33.6	0.9	.....	N	.....	.....	2	.....	10	.....	.....	0.10	2.5	Snowing.....	J. McLandsborough.
Bridgetown, (Barbados)	29.92	760.0	29.94	760.5	80	26.7	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.20	741.7	37.5	3.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [C.
Cardington	.....	.....	29.23	742.4	36.4	2.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E	29.02	737.1	29.15	740.4	36.2	2.3	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Corpl. Daly, R. E.
Dartmoor	27.98	710.7	29.47	748.5	36.0	2.2	.....	W	.....	.....	3	.....	4	.....	.....	.....	.....	Snow-showers..	Alexander Watt.
Donaghadee	29.21	741.9	29.25	742.9	37	2.8	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Hailing.....	J. Mac Gowan.
Dover	29.11	739.4	29.14	740.1	37	2.8	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	J. Costello.
Falmouth, Observatory	29.09	738.9	29.32	744.7	43.9	6.6	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.42	696.5	29.73	755.1	83.4	28.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.60	751.8	29.83	757.7	88	31.1	.....	W ?	.....	.....	0?	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.16	740.7	40	4.4	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.06	763.5	30.11	764.8	61.2	16.2	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.05	737.9	29.26	743.2	34.7	1.5	.....	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.. ..	D. G. Maclean.
Great Yarmouth	29.16	740.7	29.17	740.9	35	1.7	.....	NE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.. .	G. T. Watson.
Greenwich, Royal Obs'y	29.01	736.8	29.19	741.4	36.6	2.6	.....	N	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.02	737.1	29.25	742.9	42	5.6	.....	WNW	.....	.....	4	.....	5	.....	.....	Blank	Blank	Lightning...	Dr. S. E. Hoskins, F.R.S.
Helston	29.28	743.7	29.40	746.7	44	6.7	.....	NW	.....	.....	6	.....	6k	.....	.....	0.11	2.8	Showery	M. P. Moyle.
Holyhead	29.20	741.7	29.25	742.9	38	3.3	.....	SSW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.02	737.1	29.31	744.5	43.0	6.1	.....	WNW	.....	.....	6	.....	7	.....	.....	Blank	Blank	D. clouds.....	J. Fisher.
Kew, Observatory	29.16	740.7	29.20	741.7	36.1	2.3	.....	WNW	11	4.9	.....	.....	9	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	29.09	736.6	29.26	743.2	35.0	1.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.75	755.6	29.83	757.7	64	17.8	.....	W	.....	.....	2	.....	4c	.....	.....	.....	.....	Blue sky.....	Sergt. H. J. Beckett, A. H. C.
Nairn	29.16	740.7	29.25	742.9	37	2.8	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.18	766.6	65.2	18.4	.....	N	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.06	738.1	29.26	743.2	33.5	0.8	.....	N	.....	.....	3	.....	10k;d	.....	NNE	0.020	0.51	Snowing.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.71	729.2	29.24	742.7	35.8	2.1	.....	NNE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.23	742.4	35	1.7	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.21	741.9	29.29	744.0	43.2	6.2	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	29.21	741.9	29.25	742.9	40	4.4	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.09	738.9	29.26	743.2	40	4.4	.....	WNW	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.28	743.7	35.8	2.1	.....	S	20	8.9	.....	.....	2	.....	.....	.....	.....	Blue sky.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.75	755.6	54.0	12.2	.....	SW	.....	.....	3	.....	9	.....	.....	Blank	Blank	Gloomy.....	W. H. Lyne.
Sheffield	29.00	736.6	29.29	744.0	34.3	1.3	.....	NNE	.....	.....	1	.....	10	.....	.....	0.10	2.5	Snowing.....	W. F. Cooper.
Silloth Rectory	29.24	742.7	29.27	743.4	38.6	3.7	88	SE	.....	.....	5	.....	9	.....	.....	0	0	D. clouds.....	Francis Redford, A. M.
Stonyhurst, Observatory	28.87	733.3	29.27	743.4	35.0	1.7	.....	NE	.....	.....	1	.....	9	.....	.....	Blank	Blank	Misty.....	Rev. S. J. Perry.
Stratfield Turgiss	28.99	736.3	29.20	741.7	35.3	1.8	.....	N	.....	.....	0–1	.....	7	.....	.....	.....	.....	D. clouds.....	C.H.Griffith, F..M.S.
Thurso	29.19	741.4	29.26	743.2	36	2.2	.....	SSE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.31	744.5	47	8.3	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.24	742.7	29.27	743.4	39.1	3.9	.....	W	20	8.9	.....	.....	10	.....	.....	.....	.....	Showery.. ...	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.91	759.7	29.95	760.7	80	26.7	88	NW	9	4.0	.....	0	6	.....	.....	0.075	1.91	Raining.....	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.22	742.2	57.0	13.9	77	SW	.....	.....	5	.....	4km	.....	.....	0.09	2.3	Squally.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.32	744.7	35.0	1.7	.....	E	.....	.....	2	.....	8k	.....	.....	0.28	7.1	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.65	753.1	29.84	757.9	81.7	27.6	74	E	15.5	6.9	.....	6	3	.....	E	0	0	Cloudy.....	C. Meldrum.
Melbourne, Observatory	29.78	756.4	29.87	758.7	58.2	14.6	65	W	12	5.4	.....	.....	10	.....	.....	0	0	Squally.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.14	740.1	39	3.9	.....	S	.....	.....	7	10	0	S	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.28	743.7	35	1.7	.....	SW	.....	.....	4	10	10	W	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	
Brig Catherine	.....	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
Schooner Traveller	.....	.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.

British Marine Series.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	65.8	18.8	76	NE	.....	.....	1	1k	6cs	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,755.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.13	739.8	29.17	741.0	28.0	— 2.2	96	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.....
Fanöe	29.19	741.4	29.21	741.9	23.7	— 4.6	84	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....
Godthaab, (Greenland)	30.13	765.3	30.17	766.4	5.5	—14.7	82	NNE	.....	.....	6	.....	8	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.21	741.9	29.24	742.8	40.8	4.9	71	SE	.....	.....	2	.....	4	.....	.....	.....	.....	.....
Vestervig	29.14	740.2	29.31	744.5	18.7	— 7.4	81	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.76	730.6	29.32	744.6	43.5	6.4	82	W	.....	.....	4	.....	5	.....	W	0.429	10.9	Cloudy.....	Collignon, Director.
Amiens, Normal School	28.98	736.2	29.10	739.0	42.8	6.0	85	S	.....	.....	3	.....	10	.....	.....	0.079	2.0	Covered.....	Bonvallet, Director.
Avignon, Normal School	29.52	749.9	29.60	751.9	51.4	10.8	56	SW	.....	.....	2	.....	8	.....	W	0	0	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	28.74	730.0	29.30	744.3	44.4	6.9	68	W	.....	.....	2	.....	8kn	.....	W	0.626	15.9	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	28.86	733.1	29.15	740.4	41.9	5.5	74	W	.....	.....	3	.....	10	.....	WNW	0.187	4.75	Covered.....	Frere Eugene Marie, Dir.
Besançon, Normal School	28.54	725.0	29.45	747.9	42.6	5.9	71	S	.....	.....	4	.....	10	.....	SW	0.689	17.5	Covered.....	A. Carré, Director.
Bourg-en-Bresse, N. School	28.65	727.7	29.54	750.3	39.7	4.3	74	S	.....	.....	4	.....	kn	S	S	0	0	.....	M. Marlot, Director.
Bourges, Normal School	28.84	732.6	29.39	746.6	45.0	7.2	83	SW	.....	.....	4	.....	5	SW	SW	0.295	7.5	Cloudy.....	A. Waquet, Director.
Brest, Naval Observatory	29.12	739.7	29.37	745.9	48.9	9.4	65	WNW	.....	.....	4	.....	8	.....	WNW	0.098	2.50	Raining.....	M.de Rermaree, Director
Carcassonne, Normal School	29.31	744.5	29.73	755.1	48.9	9.4	66	WNW	.....	.....	1	.....	.....	W	W	0.12	3.	Cloudy.....	September, Director.
Caen, Normal School	29.20	741.8	29.28	743.7	41.7	5.4	69	.....	.....	.....	.....	.....	5	.....	.....	0.28	7.	Cloudy.....	M. Lair, Director.
Chartres, Normal School	28.60	726.4	29.16	740.6	44.4	6.9	91	SW	.....	.....	3	.....	0	.....	.....	0.91	23.	Clear	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	28.93	734.8	29.25	743.0	37.4	3.0	83	S	.....	.....	6	.....	5	S	S	0.874	22.2	Cloudy.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.10	713.6	29.46	748.3	43.7	6.5	56	SW	.....	.....	3	.....	5	.....	WSW	0.102	2.6	.....	Alluard, Director.
Commercy, Normal School	28.41	721.5	29.29	744.0	37.9	3.3	90	SW	.....	.....	4	.....	10kn	.....	SW	.....	.....	Rain & snow.	Dr. Coulet, Director.
Commune de Grêsque*	28.52	724.5	29.67	753.5	45.5	7.5	65	W	.....	.....	4	.....	10	.....	W	0.04	1.	Raining	M. Kina, Director.
Grenoble, Normal School	28.83	732.3	29.62	752.8	38.8	3.8	90	NNW	.....	.....	1	.....	10n	.....	.....	0.024	0.60	Covered.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.26	743.3	29.49	749.0	49.3	9.6	89	W	.....	.....	3	.....	5	.....	W	0.315	8.0	Cloudy.....	Mouillot, Director.
Le Mans, Normal School	29.04	737.5	29.34	745.3	45.0	7.2	69	N	.....	.....	4	.....	5	NW	NNW	0.551	14.0	Cloudy.....	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.54	724.9	29.47	748.4	38.3	3.5	90	S	.....	.....	1	.....	10	.....	.....	0.591	15.0	Raining	Baudry, Director.
Lorient, Naval Observatory	29.34	745.1	29.43	747.6	55.0	12.8	60	W	.....	.....	4	.....	.....	NW	W	0.362	9.2	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galsin, Director
Mirecourt, Normal School	28.26	717.7	29.31	744.4	39.2	4.	87	NNW	.....	.....	4	.....	kn	.....	SSE	0.669	17.0	.....	M. Barbier, Director.
Nismes, Normal School	29.39	746.4	29.59	751.5	52.2	11.2	59	W	.....	.....	3	.....	5	.....	NW	0	0	Cloudy.....	Boyer, Director.
Privas, Normal School	28.65	725.2	29.63	752.7	41.5	5.3	81	S	.....	.....	1	.....	n	S	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.53	623.0	.....	.....	25.3	— 3.7	100	W	.....	.....	10	.....	9	.....	.....	0.362	9.2	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.49	749.0	29.52	749.8	50.7	10.4	77	W	.....	.....	2	.....	6	.....	.....	0.35	9.	Clear	Lt. Decante, Director.
Rouen, Normal School	29.08	738.5	29.16	740.6	39.7	4.3	83	W	.....	.....	3	.....	8	.....	W	0.236	6.0	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.31	744.5	29.34	745.2	45.5	7.5	69	NW	.....	.....	7	.....	1	NW	NW	0.116	2.95	Clear.	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.04	737.5	29.20	741.7	44.2	6.8	85	SW	.....	.....	3	.....	.....	.....	WSW	0.036	0.9	.....	E. Renou, Director.
Tarbes, Normal School	28.54	724.8	29.62	752.3	48.2	9.	59	WSW	.....	.....	8	.....	10	.....	.....	0.39	10.	Raining.....	T. Huguet, Director.
Versailles Observatory	28.69	728.8	29.19	741.3	42.8	6.0	.....	SW	.....	.....	4	.....	10	.....	.....	0.166	4.21	Rainy	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.76	730.5	29.47	748.5	48.7	9.3	97	S	.....	.....	3	.....	5	.....	NW	0	0	Cloudy.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.7	29.98	761.4	73.8	23.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchesi.
Lyons Obs'y, (Park Station)	.....	.....	29.54	750.2	41.7	5.4	69	SSW	.....	.....	3	.....	9	.....	.....	0.004	0.1	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.48	621.7	29.79	756.7	31.6	— 0.2	62	SSW	.....	.....	10	.....	4	.....	SW	0	0	.....	M. Cave.
Nice	.....	.....	29.64	752.8	51.4	10.8	56	SW	.....	.....	4	.....	10	.....	.....	0.433	11.0	Covered.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	28.91	734.3	.....	.....	44.2	6.8	68	WSW	.....	.....	4	.....	9	.....	W	0.287	7.3	.....	Marié Davy, Director.
Perpignan	29.59	751.5	29.69	754.2	53.1	11.7	64	E	5.6	2.5	.....	.....	9	.....	.....	0.047	1.2	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.06	560.4	.....	.....	21.2	—6.0	.....	SW	.....	.....	4-6	.....	10	.....	.....	0.949	24.1	Snowy.....	Gen'l de Nansouty.
Toulouse, Observatory	28.96	735.5	29.67	753.6	44.6	7.0	91	W	.....	.....	3	.....	10	.....	.....	0.366	9.3	Light rain ...	M. Mercadier Julier.
Tours	29.17	741.0	29.37	746.0	48.2	9.0	61	WSW	.....	.....	4	.....	5	.....	W	1.205	30.6	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	29.98	761.6	30.01	762.2	43.3	6.3	88	NNE	20.8	9.3	.....	.....	10	.....	.....	0	0	Covered.....	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grêasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.39	721.0	29.20	741.8	36.3	2.4	89	SE			5		10	S		0.394	10.0	Snowing	Prof. Dr. Hoh.
Berlin	29.01	736.8	29.18	741.2	37.4	3.0	85	W			1		10			0.035	0.9		Prof. Arndt.
Breslau	28.64	727.5	29.16	740.7	35.6	2.0	91	SW			3		10			0	0		Royal University Obs'y
Carlsruhe	28.84	732.4	29.26	743.1	42.1	5.6	77	SW			4		10	SW		0.295	7.5	Raining	Albert Sena.
Cassel	28.59	726.2	29.18	741.2	37.0	2.8	75	SW			2		10	SW		0.037	0.96	Snowing	Dr. H. Möhl.
Crefeld	28.97	735.8	29.13	739.8	37.0	2.8	88	SE			4		10			0	0	Foggy	Director Lose.
Emden					31.8	— 0.1	83	NE			0		5			0	0		Prof. Prestel.
Frankfort on the Main	28.86	733.0	29.22	742.2	37.2	2.9		SSW			2		10			0.417	10.6		Physical Society.
Friedrichshafen	27.95	710.0	29.32	744.6	40.3	4.6	69	SW			6		10	SW		0	0		M. Wilhelm.
Hamburg	29.08	738.7	29.15	740.5	30.0	— 1.1	74	SW			3		10			0.173	4.4		Captain F. Hegemann
Kiel	29.11	739.4	29.13	739.8	30.0	— 1.1	93	NNE			4		10			*0.073	1.85	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.25	743.0	29.34	745.2	31.5	— 0.3	73	E			4		2			0.004	0.1	Snowing	Prof. E. Luther.
Köslin			29.16	740.7	31.3	— 0.4		SE			2		4			0	0		H. Müller.
Leipsic, Observatory	28.82	731.9	29.24	742.6	38.5	3.6	78	SW			4		8	WSW		0.209	5.3		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.36	745.7	29.40	746.8	27.9	— 2.3	79	SE			2		2cs						Skalweit.
Neufahrwasser	29.29	743.9	29.30	744.3	31.8	— 0.1	83	SE			2		10			0	0		A. Lothes.
Posen	28.89	733.9	29.19	741.3	37.2	2.9	79	E			5		10			0.083	2.1	Snowing	Dr. Magener.
Strassburg (in Alsace)	28.75	730.2	29.30	744.2	44.6	7.0	64	SW			4		9	WSW		0.337	8.56	Snowing	Imp. University Observatory.
Stuttgart	28.35	720.2	29.26	743.3	41.0	5.0	61	W			1		8	W		0.335	8.5		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.81	706.4	29.34	745.1	35.2	1.8	85	SW	7	3			9ck	W	SW	0.087	2.2		Dr. Van Bebber.
Wustrow, Naval School	29.08	738.5	29.10	739.1	32.7	0.4	92	SE			2		10			0.157	4.0	Snowing	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.35	745.4	29.74	755.3	59.9	15.5		S			6.0							¼Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.86	758.3	29.91	759.6	77.0	25.0	53	WNW	1.3	5.8			0			0	0	Blue sky	
Deesa	29.40	746.7	29.88	758.9	76.5	24.7	36	N	4.4	2.0			0			0	0	Blue sky	
Bombay	29.83	757.6	29.86	758.5	77.5	25.3	74	NNW	20	8.9			6	WNW		0	0	D clouds	
Lahore	29.15	740.3	29.91	759.6	69.7	20.9	48	NE	1.9	0.8						0	0	Blue sky	
Belgaum	27.30	694.2	29.81	757.3	80.2	26.8	49	W	7	3.1			2			0	0	D. clouds	
Roorkee	28.97	735.8	29.91	759.6	59.8	15.4	94	NE	2	0.9			10			0.11	2.8	Gloomy	
Agra	29.29	743.8	29.86	758.5	71.7	22.1	67	S								0	0		
Nagpur	28.77	730.8	29.81	757.3	80.1	26.7	45	Calm	3.9	1.7			4		SE	0	0	D. clouds	
Lucknow	29.45	748.0	29.83	757.6	75.0	23.9	60	Calm	0.4	0.2						0	0	Blue sky	
Allahabad	29.52	749.8	29.84	757.8	74.8	23.8	60	Calm	2.5	1.1			1			0	0	D. clouds	
Patna	29.65	753.2	29.84	757.9	74.1	23.4	71	W	1.8	0.8			6	W	W	0	0	D. clouds	
Hazaribagh	27.82	706.7	29.86	758.4	72.8	22.7	41	Calm	4.8	2.2			9		S	0	0	Gloomy	
Cuttack	29.77	756.1	29.85	758.2	82.7	28.2	49	E	1.2	0.5			3			0	0	D. clouds	
Calcutta (Alipore)	29.84	757.8	29.86	758.4	74.5	23.6	57	N	2.0	0.9			0			0	0	Blue sky	
Goalpara	29.43	747.4	29.82	757.4	74.3	23.5	48	W	2.2	1.0			0			0	0	Blue sky	
Chittagong	29.75	755.7	29.84	758.0	75.8	24.3	76	WSW	5.5	2.5			0			0	0		
Sibsagar	29.49	749.1	29.84	757.8	69.5	20.8	76	E	0.6	0.3			0			0	0	Blue sky	
Jubbulpore	28.44	722.5	29.82	757.5	74.2	23.4	62	SW	3.9	1.7			7	SW		0.11	2.8	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.93	734.9	29.35	745.4	47.8	8.8	57	SE	2.5	1.1	.....	.....	3	.....	.....	0.421	10.7	.....	Prof. Giovanni Clodig.
Padua	29.23	742.5	29.34	745.3	52.5	11.4	36	W	22.4	10.0	.....	.....	0	.....	.....	0.232	5.9	.....	Prof. Dott. Lorenzoni
Milan	28.87	733.2	29.30	746.4	50.9	10.5	26	W	.....	.....	4	.....	1	WNW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.49	723.7	29.41	747.1	50.4	10.2	45	N	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.52	699.1	29.47	748.4	48.6	9.2	25	WSW	.....	.....	6	.....	1	W	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.24	742.7	29.43	747.6	55.2	12.9	45	SW	5.6	2.5	.....	.....	2	SW	.....	0.043	1.1	.....	Prof. G. M. Garibaldi.
Florence	29.23	742.5	29.49	749.0	52.7	11.5	52	WSW	.....	.....	6	.....	4	WSW	.....	0.138	3.5	.....	Cav. F Meucci
Leghorn	29.39	746.5	29.48	748.7	52.3	11.3	51	W	24.8	11.1	.....	.....	4	WSW	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.34	745.3	29.39	746.5	54.9	12.7	25	SW	31.1	13.9	.....	.....	3	W	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.41	747.1	29.59	751.6	55.8	13.2	42	W	28.6	12.8	.....	.....	2	.....	.....	0.291	7.4	.....	Prof. P S. Ferrari.
Lecce	29.29	744.0	29.55	750.5	55.8	13.2	64	W	12.5	5.6	.....	.....	8	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.59	751.5	29.78	756.4	56.8	13.8	55	NW	.....	.....	4	.....	1	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.83	732 3	29.72	754.9	50.0	10.0	76	WNW	12.5	5.6	.....	.....	9	.....	.....	0.335	8.5	.....	Prof. D. Conti.
Palermo	29.54	750.3	29.80	756.8	60.1	15.6	48	WSW	6.3	2.8	.....	.....	3	.....	.....	0.012	0.3	.....	Prof. G. Cacciatore.
Syracuse	29.70	754.4	29.77	756.2	63.5	17.5	50	SSW	11.2	5.0	.....	.....	8	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.08	738.7	29.64	752.8	53.0	12.0	57	SSW	16.1	7.2	.....	.....	4	.....	.....	0.126	3.2	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.91	759.7	29.93	760.2	51.0	10.6	90	NNE	9.0	4.0	.....	.....	10s	.....	.....	0.215	5.46	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.69	754.1	29.90	759.4	52.1	11.2	96	NE	1.4	0.6	.....	.....	1s	.....	.....	1.600	40.64	Clear	S. Takahayashi.
Tokei (Yeddo) Observatory	29.80	756.9	29.87	758.7	51.6	10.9	69	SSW	7.7	3.4	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	25.15	638 8	30.25	768.4	47.8	8.8	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.54	623.4	30.22	767.6	53.1	11.7	80	SW	.....	.....	1	0	0	.....	.....	Inap.	Inap	Blue sky	Prof. M. Leal
Mexico, Central Obs'y	23.15	587.9	30.27	768.9	48.2	9.0	79	Calm	0	0	.....	0	7ks	.....	.....	Inap.	Inap.	Cloudy	The Staff.
Pabellon, (Aguascallentes)	.....	.....	.....	.....	51.8	11.0	79	Calm	.....	.....	0	0	1s	.....	.....	0	0	Bright	M. V. de Leon, M. E
Tlacotalpam	30.19	766.8	30.20	767.1	69.6	20.9	88	WSW	.....	.....	2	6	1	S	E	0 185	4.7	Cloudy	M. M. Cházaro.
San Luis Potosi	24.26	616.2	30.28	769.0	46.0	7.8	61	ESE	.....	.....	1	0	4	.....	ESE	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	30.21	767.3	30.24	768.0	73.4	23.0	86	SE	14 3	6.4	.....	.....	9ks	.....	.....	0.284	7.2	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.48	596.5	30.24	768.0	42.1	5.6	61	N	1.3	0.6	.....	3ck	.....	NE	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.45	722.7	30.12	765.1	72.5	22.5	66	NE	.....	.....	1	0	3	.....	.....	0	0	⅜ clouded	R. Banda, C. E.
San Juan E. Michapam	30.09	764.3	30.23	767.7	71	21.7	.....	Calm	.....	.....	0	0n	4n	.....	.....	1.587	40.3	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,498 m., or 8,198.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7217.6 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.12	739.7	29.12	739.7	41.7	5.4	.....	S	.....	.....	2	.....	.....	.....	.....	0.008	0.2	.....	.....
Groningen	.....	.....	.....	.....	30.2	— 1.0	.....	NE	.....	.....	4	.....	.....	.....	.....	0.094	2.4	.....	.....
Helder	29.15	740.5	29.15	740.5	31.3	— 0.4	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.11	739.5	29.11	739.5	41.9	5.5	77	WNW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.08	738.7	29.13	739.9	41.0	5.0	74	SSW	.....	.....	3	.....	5	.....	.....	0.193	4.9	Cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.24	742.7	29.30	744.1	27.7	— 2.4	79	SSE	3.6	1.6	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.28	743.6	29.32	744.6	30.2	— 1.0	80	E	4	2	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.19	741.3	29.34	745.2	18.3	— 7.6	75	E	7	3	.....	.....	2	.....	.....	0	0	.....	
Tromsö	29.46	748.2	29.50	749.3	27.7	— 2.4	75	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.04	762.9	30.23	767.8	60.1	15.6	87	WNW	8.1	3.6	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.0	30.05	763.3	55.4	13.0	93	SW	16.1	7.2	.....	.....	10	.....	.....	0.083	2.1	Light rain..	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.19	766.9	30.28	769.1	63.7	17.6	63	SW	3.8	1.7	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.10	764.5	56.5	13.8	92	WSW	19.9	8.9	.....	.....	10	.....	.....	0.087	2.2	.....	The Staff.
Ponta Delgada, (Azores)	30.20	767.1	30.27	768.9	63.7	17.6	62	WNW	17.4	7.8	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd't.
India	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	4	SW	D. Clouds ...	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta. Porto Praya, Cape Verd Islands.	3	NE	Blue sky.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	Blue sky.....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	Blue sky.....	J. M. T. Guimaraes, Com'd't.

NOTE.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.80	731.4	29.22	742.3	34.0	1.1	83	E	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.03	737.3	29.46	748.2	30.7	— 0.7	75	SSE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.15	740.4	29.40	746.7	27.7	— 2.4	89	SSW	9	4	.....	.....	10n	.....	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	29.31	744.4	29.32	744.8	35.8	2.1	93	SSE	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.91	734.3	29.55	750.6	34.2	1.2	73	SSE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.66	753.4	29.73	755.2	44.1	6.7	84	S	9	4	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.84	758.0	29.86	758.5	45.0	7.2	77	Calm	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.04	737.7	29.61	752 0	34.7	1.5	87	S	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.8	29.65	753.1	37.4	3.0	79	W	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.74	755.4	29.76	755.9	22.6	— 5.2	93	ENE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.48	723.3	29.91	759.8	49.6	9.8	30	NW	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.89	759.2	29.81	757 1	45.3	7.4	83	NW	4	2	.....	.....	8ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Trotkowo*	29.34	745.1	29.83	757.6	28.4	— 2.0	76	SE	2	1	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.60	751.8	29.88	759.0	25.3	— 3.7	81	E	2	1	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.09	738.9	30.14	765.5	10.6	—11.9	83	ENE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.50	749.4	29.74	755.3	56 7	13.7	28	WSW	7	3	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.31	719.2	29.98	761.5	65.8	18.8	40	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.72	755.0	30.28	769.2	1.4	—17.0	63	NE	9	4	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.14	765 6	30.48	774.3	—19.8	—28.8	80	W	2	1	.....	.....	0	.....	.....	.....	.....	Light clouds	Marks.
Peking, (China)	30.12	765 0	30.26	768.6	22.3	— 5.4	63	SW	16	7	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.18	766.5	30.28	769.0	1.0	—17.2	53	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 58° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.60	751.8	29.71	754.5	59.0	15	40	WSW	5.4	2.39	.....	.....	4ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.65	753.0	29.71	754.5	50.0	10.0	91	NW	4.3	1.92	.....	.....	10	.....	.....	0.177	4.5	Raining.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.71	678.4	.....	.....	44.6	7.0	91	SW	14.0	6.27	.....	.....	9	.....	.....	0.394	10.0	Rainy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.62	701.5	.....	.....	48.0	8.9	90	SW	41.0	18.33	.....	0	10	.....	.....	.....	.....	Covered.....	The Staff.
Murcia, Met. Obs'y	29.76	755.9	29.91	759 7	73.8	23.2	46	W	1.3	0.61	.....	2	3	SW	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.78	731.1	29.68	753.9	51.3	10.7	98	W	8.1	3.6	.....	.....	10	.....	.....	0.862	21.9	Rain & fog...	R. Gil Villanueva, Dir.
SUB-SERIES																			
Havana, Cuba, W. I	30.16	766.0	30.23	767.7	66.8	19.3	60	NNE	8.5	3.8	.....	0	1k	.....	ENE	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands	29.74	755.6	29.80	757.0	82.4	28.0	73	SSE	8.5	3.8	.....	.....	2cs	.....	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	764.1	30.18	766.6	60.3	15.7	77	W	12.2	5.5	.....	0	9	.....	SW	0.020	0.5	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.93	760.1	30.02	762.4	75.9	24.4	83	SW	0	0	.....	6kn	3kn	.....	.....	0	0	Cloudy.....	Leonardo de Tejada, Ch'f. Eng r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.47	748.4	29.50	749.4	20.1	— 6.6	.....	NE	.....	.....	4	.....	10	.....	.....	0.118	3.0	.....	
Umea	29.29	744.0	29.34	745.3	20.5	— 6.4	95	NE	.....	.....	4	.....	10	.....	.....	0.110	2.8	.....	
Hernosand	29.24	742.7	29.29	744.0	19.4	— 7.0	83	N	.....	.....	4	.....	10	.....	.....	0.087	2.2	.....	
Stockholm	29.13	740.0	29.31	744.5	22.5	— 5.3	98	W	.....	.....	4	.....	8	.....	.....	0.055	1.4	.....	
Wisby	29.32	744.7	29.38	746.2	25.5	— 3.6	78	NNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.20	741.8	29.28	743.7	21.7	— 5.7	80	NW	7.6	3.4	.....	.....	10	.....	.....	0.021	0.53	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.05	712.5	29.53	750.1	37.0	2.8	80	S	.....	.....	6	.....	10	.....	.....	0.232	5.9	Covered	The Observatory.
Zurich	27.78	705.6	29.47	748.5	39.7	4.3	68	W	.....	.....	5	.....	8	.....	.....	0.094	2.4	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —13.4 mm.; Thermometer, —1.6 ent.; Relative Humidity, +11 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.74	755.3	54.5	12.5	61	SSW	17	7.5	.....	.....	6	.....	SW	0.370	9.4	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.60	751.9	57.6	14.2	.....	S	.....	.....	6	.....	10	.....	.....	0.12	3.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.95	760.7	30.07	763.8	63.1	17.3	63	SW	.....	.....	2	.....	8k	.....	W	0.44	11.2	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.66	753.4	29.73	755.1	9.5	—12.5	92	NE	2.5	1.1	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.97	761.2	30.32	770.1	— 8	—22.2	.....	N	1	0.4	.....	0	0	.....	.....	0.40	10.2	Clear	W. R. Bigg.
*Chatham, N B	29.59	751.6	29.65	753.1	8	—13.3	100	N	20	8.9	.....	.....	10n	.....	N	0.20	5.1	Light snow	G. A. Blair.
Charlottetown, P. E. Island	29.20	741.7	29.25	742.9	15	— 9.4	100	N	41	18.3	.....	.....	10n	.....	.....	0.50	12.7	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	29.98	761.5	30.20	767.1	— 6.0	—21.1	100	W	.....	.....	2	0	1s	.....	.....	0.40	10.2	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	30.00	762.0	30.02	762.5	8	—13.3	80	N	40	17.9	.....	.....	10s	.....	N	0.10	2.5	Cloudy	J. McWilliams.
Fredericton, N. B	29.49	749.0	29.56	751.8	8.9	—12.8	96	NE	18	8.0	.....	.....	10n	.....	.....	Inap.	Inap.	Light snow	Prof. Harrison.
*Fort Garry Manitoba	28.86	733.0	29.75	755.6	8	—13.3	100	SE	18	8.0	.....	Haze	8n	SE	SE	0.235	5.97	Hazy	James Stewart.
Granton, Ontario	29.20	741.7	30.45	773.4	— 1	—18.3	.....	N	.....	.....	1	2cs	0	N	.....	0	0	Fair	James Grant.
*Halifax, N. S	28.77	730.7	28.91	734.3	24	— 4.4	99	NE	20	8.9	.....	.....	10n	.....	.....	0.880	22 35	Heavy snow	F. Allison, M. A.
Hamilton, Ontario	30.04	763.0	30.47	773.9	— 1.4	—18.6	100	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.94	760.5	30.33	770.4	— 6	—21.1	86	NW	2	0.9	.....	0	0	.....	.....	0.21	5.3	Clear	S. Woods, M. A.
Little Glace Bay, N. S	28.89	733.8	28.93	734.8	28.4	— 2.0	96	E	20	8.9	.....	.....	10n	.....	.....	0.700	17.78	Snowing	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.92	760.0	30.14	765.5	5	—15.0	72	NW	14	6.3	.....	0	0	.....	.....	0.30	7.6	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.71	754.6	30.53	775.4	—17	—27.2	45	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.55	750.6	30.38	771.6	— 8.6	—22.6	53	NW	.....	.....	.....	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.66	753.4	30.48	773.7	— 2	—18.9	94	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	28.99	736.3	29.04	737.6	17.7	— 7.9	.....	NE	20	8.9	.....	.....	.....	.....	.....	0.60	15.2	Snowing	Peter Grant.
Port Stanley, Ontario	29.72	754.9	30.45	773.4	2	—16.7	100	NW	10	4.5	.....	.....	8ks	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.71	754.6	30.06	763.5	4	—15.6	87	N	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.96	761.0	30.51	774.9	—20	—28.9	86	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.11	764.8	30.16	766.1	27	— 2.8	81	E	.....	.....	1	0	2ks	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.16	740.7	29.34	745.2	10	—12.2	100	NW	28	12.5	.....	.....	10n	.....	.....	0.9	23.	Heavy snow	G. Murdock, C. E.
*Saugeen, Ontario	29.67	753.6	30.50	774.7	— 6	—21.1	87	NE	9	4.0	.....	5cs	0	.....	.....	Inap.	Inap.	Clear	K. Stewart.
Stayner, Ontario	29.60	751.8	30.49	774.4	— 4	—20.0	96	N	8	3.6	.....	5c	0	NW	.....	0.08	2.0	Fair	R. J. Cole.
Stratford, Ontario	29.00	736.6	30.47	773.9	— 5.6	—20.9	92	NW	5	2.2	.....	1ck	2s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.21	741.9	29.25	742.9	28	— 2.2	99	E	23	10.3	.....	.....	10n	.....	.....	0.31	7.9	Light snow	T. C. Hill.
*Toronto, Ontario	29.99	761.7	30.44	773.2	— 4	—20.0	96	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	28.98	736.1	30.08	764.0	18.0	— 7.8	100	N	38	17.0	.....	.....	.....	.....	.....	0.70	17.8	Snowing	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	30.0	— 1.1	100	E	.....	.....	.....	10	10n	.....	.....	0	0	Threatening	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Upper. From —	CLOUDS. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millim.	WEATHER.	OBSERVER.
Albany, New York	29.79	756.7	30.04	763.0	7	—13.9	77	NW	24	10.7	.....	0	8s	.....	NW	0.13	3.3	Fair	
Alpena, Michigan	29.73	755.1	30.46	773.7	8	—13.3	78	NE	4	1.8	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Atlanta, Georgia	29.17	740.9	30.40	772.1	29	— 1.7	59	NW	13	5.8	.....	0	Sm'e	.....	Calm	0	0	Clear.	
Atlantic City, New Jersey	30.08	764.0	30.10	764.5	21	— 6.1	71	NW	20	8.9	.....	0	0	.....	.....	0.14	3.6	Clear	
Augusta, Georgia	30.23	767.8	30.42	772.6	29	— 1.7	78	N	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.19	766.8	30.24	768.1	20	— 6.7	70	NW	12	5.4	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Barnegat, New Jersey	30.00	762.0	30.03	762.8	24	— 4.4	74	NW	31	13.9	.....	0	0	.....	.....	0.35	8.9	Clear	
Bismarck, Dakota	27.71	703.8	29.57	751.1	18	— 7.8	84	NE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Boerne, Texas	28.62	726.9	29.92	760.0	58	14.4	100	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.25	692.1	30.21	767.3	47	8.3	69	NW	4	1.8	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Boston, Massachusetts	29.55	750.6	29.72	754.9	14	—10.0	64	NW	28	12.5	.....	2cs	5s	Calm	NW	0.97	24.6	Fair	
Brackettville, Texas	29.01	736.8	30.04	763.0	62	16.7	83	SE	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Breckenridge, Minnesota	28.63	727.2	29.68	753.9	14	—10.0	82	SE	25	11.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Brownsville, Texas	30.17	766.3	30.24	768.1	62	16.7	94	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.61	752.1	30.39	771 9	8	—13.3	89	W	10	4.5	.....	.....	10s	.....	W	0.07	1.8	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	44	6.7	30	S	.....	.....	1	2c	0	W	.....	0	0	Clear	
Burlington, Vermont	29.79	756.7	30.11	764.8	65	18.3	88	N	20	8.9	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Cairo, Illinois	29.98	761.5	30.40	772.1	33	0.6	70	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.25	641.3	30.05	763.3	52	11.1	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	37	2.8	63	S	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Camp, California	27.53	699.2	30.10	764.5	32	0.0	79	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.24	768.1	30.25	768.3	30	— 1.1	68	N	24	10.7	.....	0	5s	.....	NW	0.01	0.3	Fair	
Cape Henry, Virginia	30.17	766.3	30.19	766.8	27	— 2.8	63	NW	40	17.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cape Lookout, N. Carolina	30.27	768.8	30.29	769.4	30	— 1.1	68	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.09	764.3	30.12	765.0	25	— 3.9	75	NW	48	21.5	.....	5k	0	NW	.....	0.03	0.8	Fair	
Castroville, Texas	29.40	746.7	30.11	764.8	60	15.6	88	S	7	3.1	.....	.....	10s	.....	S	0	0	Threatening	
Charleston, South Carolina	30.32	770.1	30.38	771.6	34	1.1	48	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.94	608.1	29.88	758.9	35	1.7	70	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.59	751 6	30.33	770.4	27	— 2.8	76	S	5	2.2	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Cincinnati, Ohio	29.76	756.9	30.48	774.2	23	— 5.0	73	SE	3	1.3	.....	5k	4s	NW	SE	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.65	753.1	30.45	773.4	12	—11.1	61	N	3	1.3	.....	2k	0	Calm	.....	0.05	1.3	Clear	
Coleman City, Texas	28.31	719.1	29.98	761.5	53	11.7	93	S	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Columbus, Ohio	29.52	749.8	30.45	773.4	15	— 9.4	82	NW	2	0.9	.....	2ck	Fog	Calm	Calm	0	0	Foggy	
Comeno, Texas	28.18	715.8	29.65	758.2	54	12.2	79	SW	6	2.7	.....	10k	0	SW	.....	0	0	Cloudy	
Corsicana, Texas	29.72	754.9	30.20	767.1	51	10.6	86	S	4	1.8	.....	Haze	5s	.....	S	0	0	Fair	
Davenport, Iowa	29.49	749.0	30.18	766.6	23	— 5.0	73	SE	13	5.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Deadwood, Dakota	25.18	637.0	.....	.....	46	7.8	54	S	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.94	735.1	30.13	765.3	50	10.0	96	S	16	7.2	.....	.....	Fog	.....	.....	0	0	Foggy	
Denison, Texas	29.32	744.7	30.12	765.0	51	10.6	79	S	10	4.5	.....	8k	0	SW	.....	0	0	Fair	
Denver, Colorado	24.67	626.6	29.89	759.2	38	3.3	63	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.06	738.1	29.99	761.7	24	— 4.4	74	S	4	1.8	.....	0	2s	.....	SW	0	0	Clear	
Detroit, Michigan	29.69	754.1	30.43	772.9	14	—10.0	82	N	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.27	692.6	29.62	752.3	31	— 0.6	89	S	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Dubuque, Iowa	29.42	747.2	30.17	766.3	20	— 6.7	70	SE	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.29	744.0	30.02	762.5	12	—11.1	90	NE	16	7.2	.....	.....	10s	.....	NE	0.24	6.1	Cloudy	
Eagle Pass, Texas	29.37	746.0	30.11	764.8	61	16.1	88	SE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.31	744.5	29.38	746.2	12	—11.1	80	N	38	17.0	.....	.....	10n	.....	N	0.53	13.5	Light snow	
Edinburg, Texas	.....	.....	.....	.....	68	20.0	95	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas	26.32	668.5	.....	.....	48	8.9	32	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.64	752.8	30.44	773 2	3	—16.1	100	Calm	0	0	.....	0	Sm'e	.....	.....	0.02	0.5	Clear	
Escanaba, Michigan	29.64	752.8	30.37	771.4	6	—14.4	76	NE	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Florence, Arizona	28.55	725.2	30.15	765.8	48	8.9	56	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.46	697.5	.....	.....	34	1.1	79	S	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy	
Fort Craig, New Mexico	25.67	652.0	29.74	755.4	35	1.7	61	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	53	11.7	43	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.56	750 8	30.11	764.8	44	6.7	52	SE	20	8.9	.....	0	2ks	.....	SW	0	0	Clear	
Fort Griffin, Texas	28.77	730.7	30.04	763.0	55	12.8	87	S	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Fort Keogh, Montana	27.09	688.1	.....	.....	27	— 2.8	77	S	4	1.8	.....	8k	0	W	.....	0	0	Fair	
Fort McKavett, Texas	27.84	707.1	29.74	755.4	59	15.0	76	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.99	761.7	40	4.4	91	S	4	1.8	.....	0	Fog	.....	Calm	0	0	Foggy	
Fort Stevenson, Dakota	27.67	702.8	.....	.....	21	— 6.1	85	SE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Fredericksburg, Texas	28.38	720.8	29.94	760.5	59	15.0	88	S	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.23	767.8	30.27	768.8	57	13.9	87	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	28.98	736.1	30.04	763.0	54	12.2	87	SE	8	3.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Grand Haven, Michigan	29.67	753.6	30.39	771.9	10	—12.2	79	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.54	750.3	30.39	771.9	22	— 5.6	72	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianola, Texas	30.23	767.8	30.25	768.3	57	13.9	94	SE	9	4.0	.....	1cs	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.88	733.5	30.02	762.5	50	10.0	93	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Jacksonville, Florida	30.35	770.9	30.38	771.6	38	3.3	45	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.46	748.3	30.12	765.0	28	— 2.2	77	S	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	30.24	768.1	30.27	768.8	60	15.6	65	NE	23	10.3	.....	1k	Haze	NE	NE	0	0	Hazy	
Kittyhawk North Carolina	30.21	767.3	30.23	767.8	27	— 2.8	64	NW	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.39	746.5	30.48	774.2	24	— 4.4	80	NE	3	1.3	.....	8k	2s	NW	N	0	0	Cloudy	
La Crosse, Wisconsin	29.32	744.7	30.10	764.5	22	— 5.6	72	S	15	6.7	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	40	4.4	56	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.75	755 6	30.09	764.3	60	15.6	88	SE	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
Leavenworth, Kansas	29.10	739.1	29.97	761.2	33	0.6	79	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.77	756.1	30.12	765.0	47.0	8.3	92	NE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.82	757.4	30.42	772.6	28	— 2.2	77	SE	5	2.2	.....	5k	5s;m'e	SE	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.62	752 3	30.36	771.1	25	— 3.9	77	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	29.18	741.2	30.24	768.1	20	— 6.7	85	SE	16	7.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Marquette, Michigan	29.54	750.3	30.32	770.1	9	—12.8	78	S	8	3.6	.....	.....	10s	.....	Calm	0.28	7.1	Cloudy	
Mason, Texas	28.48	723.4	30.23	767.8	58	14.4	52	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	30.04	763.0	30.37	771.4	37	2.8	54	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	29.51	749.5	30.29	769.4	26	— 3.3	75	W	8	3.6	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Mobile, Alabama	30.37	771.4	30.41	772.4	42	5.6	62	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	30.19	766.8	30.44	773.2	34	1.1	61	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Morgantown, West Virginia	29.28	743.7	30.48	772 9	22	— 5.6	72	Calm	0	0	.....	5cs	0	Calm	.....	0.06	1.5	Fair	
Mt. Washington, N. H.	23.03	585.0	29.39	746.5	—14	—25.6	72	N	69	30.8	.....	.....	Fog	.....	N	0.80	20.3	Foggy	
Nashville, Tennessee	29.89	759.2	30.47	773.9	27	— 2.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.77	756.1	29.89	759.2	17	— 8.3	67	NW	24	10.7	.....	0	0	.....	.....	0.27	6.9	Clear	
New London, Connecticut	29.76	755.9	29.82	757.4	19	— 7.2	69	NW	24	10.7	.....	0	0	.....	.....	0.11	2.8	Clear	
New Orleans, Louisiana	30.31	769.9	30.38	771.6	46	7.8	66	E	4	1.8	.....	0	Sm'e	.....	E	0	0	Clear	
Newport, Rhode Island	29.68	753.9	29.74	755.4	19	— 7.2	77	NW	21	9.4	.....	5ck	0	NW	.....	0.23	5.8	Fair	
New York, New York	29.82	757.4	30.01	762.2	18	— 7.8	68	NW	28	12.5	.....	0	Haze	.....	Calm	0.01	0.3	Clear	
Norfolk, Virginia	30.18	766.6	30.24	768.1	26	— 3.3	52	N	28	12.5	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.86	682.2	29.56	750.8	18	— 7.8	84	NW	8	3.6	.....	10c	0	W	.....	0	0	Cloudy	
Olympia, Washington Ter.	30.11	764.8	30.15	765.8	38.2	3.4	91	S	9	4.0	.....	.....	10n	.....	.....	0.79	20.1	Light rain	
Omaha, Nebraska	28.69	728.7	29.82	757.4	30	— 1.1	68	S	12	5.4	.....	2c	0	Calm	.....	0	0	Clear	
Oswego, New York	29.97	761.2	30.32	770.1	11	—11.7	80	NW	8	3.6	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Pembina, Dakota	28.84	732.5	29.73	755.1	10	—12.2	100	SE	20	8.9	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
Philadelphia, Pa	30.06	763.5	30.11	764.8	20	— 6.7	70	NW	30	13.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Phœnix, Arizona	28.86	733.0	30.60	779.5	61	10.6	53	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.64	448.1	29.85	758.2	14	—10.0	46	W	40	17.9	.....	8cs	0	W	.....	0	0	Fair	
Pioche, Nevada	24.10	612.1	29.87	758.7	40	4.4	48	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.53	750.0	30.43	772.9	11	—11.7	80	NW	5	2.2	.....	2c	0	NW	.....	Inap.	Inap.	Fair	
Port Huron, Michigan	29.66	753.4	30.40	772.1	14	—10.0	82	N	4	1.8	.....	10ck	0	W	.....	0.06	1.5	Cloudy	
Portland, Maine	29.62	752.3	29.67	753.6	15	— 9.4	82	NW	28	12.5	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy	
Portland, Oregon	30.18	766.6	30.29	769.4	43.0	6.1	87	S	8	3.6	.....	.....	10n	.....	.....	0.71	18.0	Light rain	
Prescott, Arizona	24.81	630.2	30.17	766.3	34	1.1	61	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.13	739.9	29.95	760.7	61	10.6	72	SE	12	5.4	.....	5k	5s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.32	770.1	30.34	770.6	48	8.9	63	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.84	757.9	30.21	767.3	49	9.4	93	NE	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	30.01	762.2	30.23	767.8	60	15.6	94	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.64	752.8	30.32	770.1	10	—12.2	79	NW	12	5.4	.....	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Roseburg, Oregon	29.72	754.9	30.31	769.9	39.6	3.9	91	NE	2	0.9	.....	Haze	1s	.....	Calm	0.30	7.6	Fair	
Sacramento, California	30.12	765.0	30.20	767.1	49.5	9.7	97	SE	3	1.3	.....	0	Fog	.....	Calm	0	0	Foggy	
St. Louis, Missouri	29.68	753.9	30.2?	769.4	31	— 0.6	89	SE	16	7.2	.....	.....	10s;ks	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.38	771.6	30.40	772.1	31	— 0.6	89	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.04	737.6	29.92	760.0	18	— 7.8	68	SE	20	8.9	.....	2ck	0	NW	.....	0.03	0.8	Fair	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	50	10.0	45	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.49	749.0	30.08	764.0	59	15.0	94	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Threatening	
San Diego, California	30.07	763.8	30.14	765.5	54	12.2	100	SE	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Sandusky, Ohio	29.72	754.9	30.46	773.4	20	— 6.7	85	N	4	1.8	.....	.....	10n	.....	Calm	Inap.	Inap	Light snow	
Sandy Hook, New Jersey	29.99	761.7	30.02	762.5	20	— 6.7	70	NW	47	21.0	.....	0	0	.....	.....	Inap	Inap.	Clear	
San Francisco, California	30.16	766.1	30.28	767.8	53	11.7	93	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	28.32	692.3	29.86	758.4	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.31	769.9	30.41	772.4	37	2.8	53	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.08	764.0	30.31	769.9	47	8.3	62	SE	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Silver City, New Mexico	24.34	618.2	30.62	777.7	40	4.4	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.33	770.4	30.37	771.4	28	— 2.2	66	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.78	756.4	29.92	760.0	16	— 8.9	49	NW	20	8.9	.....	0	0	.....	.....	0.10	2.5	Clear	
Stockton, Texas	29.99	685.5	29.99	761.7	44	6.7	84	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.59	751.6	29.65	753.1	17	— 8.3	61	NW	40	17.9	.....	5k	0	NW	.....	0.19	4.8	Fair	
Toledo, Ohio	29.67	753.6	30.42	772.6	18	— 7.8	84	E	1	0.4	.....	2c	2s	Calm	Calm	0	0	Fair	
Tucson, Arizona	27.61	701.3	30.16	766.1	49	9.4	43	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.79	756.7	30.30	769.6	39.5	4.2	69	SW	22	9.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	19	— 7.2	84	N	.....	.....	7	.....	10s	.....	NW	Blank	Blank	Cloudy	
Uvalde, Texas	29.27	743.4	30.09	764.3	60	15.6	77	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Vicksburg, Mississippi	30.14	765.5	30.42	772.6	40	4.4	48	SE	4	1.8	.....	Haze	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.09	611.9	29.57	751.1	36	2.2	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.81	757.2	30.19	766.8	51	10.6	89	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.13	765.3	30.26	768.6	19	— 7.2	54	NW	19	8.5	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	47	8.3	62	N	.....	.....	1	8c	0	NW	.....	0	0	Fair	
Wilmington, N. Carolina	30.26	768.6	30.35	770.9	29	— 1.7	45	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.77	654.6	30.13	765.3	40	4.4	65	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.61	752.1	29.65	753.1	19	— 7.2	69	NW	36	16.1	.....	.....	10s	.....	NW	0.25	6.3	Cloudy	
Yankton, Dakota	28.44	722.4	29.76	755.9	30	— 1.1	78	S	4	1.8	.....	10k	0	Calm	.....	0	0	Cloudy	
Yuma, Arizona	29.84	757.9	30.01	762.2	64	12.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark.	28 54	724.9	29.98	761.6	44	6.7	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fair	J. B. Gordon.
Havana, Cuba, W. I.	30.18	766.6	30.23	767.8	68	20.0	56	NE	3.6	1.6	.....	4k	0	NE	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.96	761.0	30.04	763.0	77	25.0	.....	NE	25	11.1	.....	.....	.....	.....	.....	.....	.....	Partly cl'dy.	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	80	26.7	87	E	.....	.....	2	4c	5k	E	.....	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	29.60	751.8	29.66	753.4	—27.0	—32.8	.....	NE	16	7.2	.....	.....	10s	.....	NW	0.01	0.3	Threatening	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,769 (?) ft., or 539.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,060 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**
Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.27	768.8	53	11.7	52	11.1	100	WSW	12	5.4	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.40	772.1	42	5.6	42	5.6	83	NE	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.72	754.9	53	11.7	16	— 8.9	88	NW	8	3.6	.....	.....	2?	.....	.....	.....	.....	.....	.....	Overcast?....	
Naval Hospital, Yokohama, Japan.....*	29.91‡	759.7‡	.....	.....	55	12.8	68	SW	.....	.....	4	.....	1k	.....	SW	0	0	.....	.....	Clear	
Adams, Panama	29.96	761.0	78	25.6	77	25.0	95	NE	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Alaska, Guaymas, Mexico.....	30.13	765.3	70	21.1	63	17.2	78	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Blue sky	
Alliance, Villafranca, France.....	29.68‡	751.3‡	.....	.....	55	12.8	39	WNW	.....	.....	1–2	.....	6	.....	S;W	.....	.....	Heavy	.....	Fair	
Ashuelot, Hong-Kong, China.....	29.83‡	757.7‡	.....	.....	66	18.9	74	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Misty.....	
Canonicus, New Orleans, La.....	30.30	769.6	40	4.4	47	8.3	100	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	29.94	760.5	21	— 6.1	20	— 6.7	100	NW	24	10.7	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Constitution, Lisbon, Portugal.....	30.09‡	764.3‡	.....	.....	58	14.4	100	WSW	.....	.....	4	.....	10	.....	W	.....	.....	.....	.....	Misty.....	
Despatch, Constantinople, Turkey	29.72‡	754.9‡	.....	.....	56	13.3	63	SSW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.....	30.33	770.4	58	14.4	28	— 2.2	77	NNW	36	16.1	.....	.....	10	.....	Calm	0	0	.....	.....	Clear.	
Gettysburg, Genoa, Italy	29.63‡	752.6‡	.....	.....	58	14.4	76	SW	.....	.....	3–5	.....	2	.....	.....	Blank	Blank	Long	SW	Clear.....	
Hartford, Montevideo, Uruguay...	29.98	761.5	75	23.9	73	22.8	76	ESE	.....	.....	3	.....	8	.....	ESE	0.06	1.5	Smooth	.....	Cloudy.....	
Lackawana, Panama.....*	29.77‡	756.1‡	.....	.....	77	25 0	91	NW	.....	.....	1	.....	5	.....	.....	0	0	.....	.....	Cloudy.....	
Michigan, Erie, Pa.....†	30.19	766.8	.....	.....	— 3	—19.4	100	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Shanghai, China.....*	30.00‡	762.0‡	.....	.....	44	6.7	84	N	.....	.....	3–5	.....	10	.....	N	.....	.....	.....	.....	Squally.....	
Monongehela, Yokohama, Japan ....*	29.85‡	758.2‡	.....	.....	51	10.6	86	SW	.....	.....	4–5	.....	0	.....	.....	0	0	.....	.....	Blue sky.....	
New Hampshire, Port Royal, S. C.....	30.32	770.1	38	3.3	43	6.1	39	NNE	16	7.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....†	30.04	763.0	.....	.....	69	20.6	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	30.20	767.1	25	— 3.9	20	— 6.7	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	22	— 5.6	72	WNW	.....	.....	5	.....	5	.....	ENE	.....	.....	.....	.....	Fair.....	
Pensacola, S. 34° 06′, W. 97° 03′.....	30.23‡	767.8‡	.....	.....	66	18.9	74	SSW	6	2.7	.....	.....	10	.....	SSW	0	0	Long	S	Overcast.....	
Powhatan, Port-au-Prince, Hayti....	30.13	765.3	79	26.1	79	26.1	70	ESE	.....	.....	3	.....	8	.....	ESE	0	0	Smooth	.....	Cloudy.....	
Quinnebaug, Villafranca, France.....	29.58‡	751.3‡	.....	.....	53	11.7	54	WSW	.....	.....	4	.....	10	.....	S;W	.....	.....	Ground	S	Fair.....	
Ranger, Kobe, Japan.....*	29.89‡	759.2‡	.....	.....	57	13.9	75	NNW	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Richmond, Villefranca, France.....	29.58‡	751.3‡	.....	.....	53	11.7	48	WSW	.....	.....	3	.....	8	.....	WSW	.....	.....	Long	S	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	30.19	766.8	62	16.7	62	16.7	94	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	30.19‡	766.8‡	.....	.....	23	— 5.0	.....	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Clear	
St. Louis, League Island, Pa.....	30.03	762.8	58	14.4	21	— 6.1	.....	NW	16	7.2	.....	.....	2	.....	NNW	0	0	.....	.....	Clear.	
Supply, N. 21° 56′, W. 46° 39′.....	30.10‡	764.5‡	.....	.....	78	25.6	73	SE	.....	.....	4	.....	2	.....	SE	.....	.....	Smooth	.....	Clear.	
Trenton, Villafranca, France.....	29.56‡	750.8‡	.....	.....	53	11.7	54	SW	.....	.....	2–4	.....	0	.....	.....	0.30	7.6	Long	S	Squally.....	
Tuscarora, Acapulco, Mexico.....	29.98‡	761.5‡	.....	.....	78	25.6	73	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Wabash, Boston, Mass.....	29.73‡	755.1‡	.....	.....	14	—10.0	82	NW	17	7.6	2–5	.....	5	.....	.....	.....	.....	.....	.....	Cloudy.....	
Wyoming, Smyrna, Turkey.....	29.89‡	759.2‡	.....	.....	57	13.9	87	SSE	.....	.....	.....	.....	8	.....	S	.....	.....	Mod'ate	S	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall, or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 7° 44′, W. 82° 48′ †.		29.97‡	761.2‡	84	28.9	75	ENE			4		3		Calm		Mod'ate	NE	D. clouds	Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			Capt. Austin.
S. S. Granada, N. 35° 00′, W. 121° 30′ †*		30.36‡	771.1‡	57	13.9	94	NNW			6		k		SSE	0	Short	NW	Clear.	Capt. A. Fuller.
S. S. Wilmington																			
S. S. Zealandia, N. 27° 04′, W. 147° 54′		30.18‡	766.6‡				SE			4				SSE		Long; mod'ate	NW;SE	Thick	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 30° 14′, E. 128° 34′ *		29.77‡	756.1‡	68	20.0	70	SW			6		n		SW		Rough	SW	Squally	J. A. Thompson, 2d Off't.
S. S. Gaelic, N. 38° 09′, W. 136° 50′ †		30.17‡	766.3‡	57	13.9	92	S			5		c;hz		S	0	Swell	W	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Off Cherbourg, France		29.91‡	744.5‡	42	5.6	91	WNW			5		8		NW		High	W	Squally	Capt. C. Undütsch.
S. S. Leipzig, N. 39° 22′, W. 68° 27′		29.64‡	752.8‡	29.8	— 1.2		N			7		10		NE	0	9	ENE	Stormy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa		30 09‡	764.3‡	26	— 3.3		W			4		3		W	Blank			Partly cl'dy	Captain Sargent.
S. S. Ohio, Liverpool†		28 97‡	735.5‡	36	2.2		ENE			3		8		NE	0			Cloudy	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian, N. 39° 18', W. 68° 36'		29.67‡	751.1‡	33	0.6		WNW			9		10s		WNW				Snowing	Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

MARINE SERIES. (Miscellaneous.

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 22, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.11	764.9	60.1	15.6	.....	NE	.....	.....	2	.....	5	.....	.....	0	0	Fair	
Nemours	.....	.....	29.89	759.2	64.0	17.8	94	WNW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Kesxuche.
Algiers	.....	.....	29.73	755.2	68.0	20.0	55	W	.....	.....	4	.....	2	.....	.....	0.157	4.0	Fair	Tourilliere.
La Calle	.....	.....	29.70	754.3	73.8	23.2	48	WNW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	29.73	755.2	71.4	21.9	35	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	29.79	756.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.87	758.7	68.9	20.5	25	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.82	757.6	68.9	20.5	31	WSW	.....	.....	4	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	29.85	758.3	63.9	17.7	38	NW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	29.86	758.4	72.7	22.6	15	W	.....	.....	5	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.79	756 6	75.4	24.1	34	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear.	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale 0-4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	28.89	733.7	29.43	747.5	50.7	10.4	59	E	.....	.....	2	.....	3	.....	.....	0.291	7.4	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.63	727.3	29.40	746.8	42.8	6.0	65	W	.....	.....	2	.....	4	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	28.56	725.3	29.45	748.0	37.4	3.0	76	Calm	.....	.....	0	.....	8	.....	.....	0.358	9.10	.....	Julius Mikolik.
Gratz	28.21	716.4	29.46	748.2	41.9	5.5	69	SSW	.....	.....	2	.....	3	.....	.....	0.071	1.8	.....	Andreas Rospini.
Hermannstadt	28.08	713.1	29.50	749.3	44.2	6.8	49	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.02	711.7	29.37	745.9	41.4	5.2	69	ENE	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. O. Wagner.
Lemberg	28.40	721.3	29.39	746.6	39.6	4.2	76	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.33	744.9	29.44	747.7	54.3	12.4	74	S	.....	.....	2	.....	10	.....	.....	0.268	6.8	.....	I.R.Hydrographic Office.
Szathmar	28.06	738.1	29.53	750.0	43.2	6.2	71	W	.....	.....	3	.....	5	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.20	741.6	29.48	748.7	47.5	8.6	66	S	.....	.....	2	.....	3	.....	.....	0.051	1.30	.....	Karl Stancel.
Trieste	29.36	745.5	29.45	748.1	53.1	11.7	76	SSW	.....	.....	1	.....	9	.....	.....	0.827	21.0	Raining	P. Busin.
Vienna	28.71	729.3	29.43	747.5	47.2	8.1	36	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.20	741.6	29.40	746.8	34.2	1.2	72	NE	.....	.....	1	.....	10	.....	NW	Inap.	Inap.	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	29.20	744.0	29.42	747.2	30.7	— 0.7	.....	NE	.....	.....	2	.....	0?	.....	.....	0.024	0.6	Snowing?	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.28	743.7	29.38	746.2	31.0	— 0.6	.....	W	14	6.3	.....	.....	4	.....	.....	0.160	4.06	Blue sky.....	W. Boswell.
Ardrossan	29.37	746.0	29.39	746.5	33	0.6	.....	NNE	.....	.....	1	.....	3	.....	.....	.....	.....	Foggy	William McNeil.
Armagh, Observatory	.....	.....	29.36	745.7	36.4	2.4	.....	E	7	3.1	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.36	745.7	33.1	0.6	.....	ESE	21	9.4	.....	.....	4	.....	.....	.....	.....	Misty.....	John Hartnup.
Bolton, (Sharples)	.....	.....	29.40	746.7	34.5	1.4	.....	NNE	18	8.0	.....	.....	8	.....	.....	.....	.....	Misty.....	Thomas Mackereth.
Bradford, Yorkshire	29.00	736.6	29.40	746.7	33.3	0.7	.....	E	.....	.....	2	.....	3	.....	.....	0.01	0.3	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.96	761 0	80	26.7	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	Gloomy.....	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.39	746.5	33.0	0.6	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	H. Todd.
Cardington	.....	.....	29.39	746.5	37.0	2.8	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.24	742.7	29.37	746.0	39.3	4.1	.....	N	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Corpl. Daly, R. E.
Dartmoor	28.04	712.2	29.54	750.3	34.6	1.4	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	Snowy.....	Alexander Watt.
Donaghadee	29.35	745.5	29.39	746.5	36	2.2	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.35	745.5	29.37	746.0	38	3.3	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.10	739.1	29.33	745.0	43.2	6.2	.....	N	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.40	696.0	29.71	754.6	81.5	27.5	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.61	752.1	29.64	752.8	88	31.1	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.29	744.0	38	3.3	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.37	758.7	29.92	760.0	52.6	11.4	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	Sergt Wm. Allen, A.H.C.
Glasgow, Observatory	29.20	741.7	29.40	746.7	31.1	— 0.6	.....	ENE	.....	.....	1	.....	.....	.....	.....	.....	.....	Misty.....	D. G. Maclean.
Great Yarmouth	29.40	746.7	29.40	746.7	34	1.1	.....	ESE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.19	741.4	29.37	746.0	35.3	1.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy
Guernsey	29.06	738.1	29.28	743.7	39.5	4.2	.....	SSW	.....	.....	1	.....	8	.....	.....	.....	.....	Raining.....	Dr. S. E. Hoskins, F.R.S
Helston	29.27	743.4	29.39	746.5	45	7.2	.....	N	.....	.....	4	.....	8ck	.....	.....	0.38	9.7	Fine.....	M. P. Moyle.
Holyhead	29.29	744.0	29.35	745.5	36	2.2	.....	NNW	.....	.....	2	.....	6	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.02	737.1	29.31	744.5	42.6	5.6	.....	WNW	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	29.34	745.2	29.38	746.2	33.8	1.0	.....	E	2	0.9	.....	.....	9	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	29.13	739.9	29.39	746.5	36.5	2.5	.....	SE	.....	.....	1	.....	2	.....	.....	Blank	Blank	D. clouds....	Wm. J. Harrison, F.G.S
Malta, (Mediterranean)	29.77	756.1	29.85	758.2	62	16.7	.....	SW	.....	.....	2	.....	4k	.....	.....	.....	.....	D. clouds....	Sergt. H. J. Beckett, A. H. C.
Nairn	29.30	744.2	29.39	746.5	34	1.1	.....	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Hazy.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.21	767.3	65.2	18.4	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.20	741.7	29.40	746.7	38.3	3.5	.....	SE	.....	.....	3	.....	3k	.....	E	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.84	732.5	29.38	746.2	34.8	1.6	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.37	746.0	35	1.7	.....	E	.....	.....	1	.....	10	.....	.....	Blank	Blank	Gloomy.....	H. E. Bellamy.
Plymouth	29.21	741.9	29.29	744.0	43.0	6.1	.....	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	29.29	744.0	29.34	745.2	42	5.6	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded...	W. Kennedy.
Saint Ann's Head	29.16	740.7	29.32	744.7	41	5.0	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.38	746.2	35.3	1.8	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	Snowing.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.67	753.6	57.0	13.9	.....	N	22	9.8	.....	.....	5	.....	.....	.....	.....	D. clouds....	W. H. Lyne.
Sheffield	29.14	740.1	29.43	747.5	34.4	1.3	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	W. F. Cooper.
Silloth Rectory	29.36	745.7	29.39	746.5	35.8	2.1	71	S	.....	.....	1	.....	5	.....	.....	0.10	2.5	Blue sky.....	Francis Redford, A. M.
Stonyhurst Observatory	28.98	736.1	29.39	746.5	35.4	1.9	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	Misty.....	Rev. S. J. Perry.
Stratfield Turgiss	29.10	739.1	29.32	744.7	34.8	1.6	.....	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C.H. Griffith, F.M.S.
Thurso	29.32	744.7	29.38	746.2	36	2.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.31	744.5	41	5.0	.....	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	29.45	748.0	29.48	748.8	43.0	6.1	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	Robert Burnet.
Sub-Series.								NW	10	4.5	.....	.....	7	.....	.....	.....	.....	D. clouds....	The Meteorological Of.
Cape of Good Hope Obs'y	29.91	759.7	29.95	760.7	70.4	21.3	49	**SW**	**16**	7.2	.....	8	4	.....	.....	0	0	.....	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.51	749.5	52.0	11.1	76	SW	.....	.....	3	.....	4k	.....	.....	0.04	1.0	Starlight....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.43	747.5	35.0	1.7	.....	W	.....	.....	1	.....	5k	S	.....	0.04	1.0	.....	Andrew Gibb.
Mauritius, Observatory	29.63	752.6	29.82	757.4	81.2	27.3	.....	ESE	15.5	6.9	.....	.....	8	.....	ESE	0.05	1.3	.....	C. Meldrum.
Melbourne, Observatory	29.86	758.4	29.95	760.7	53.8	12.1	70	W	16	7.2	.....	.....	8	.....	.....	0.01	0.3	Cloudy.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.54	750.3	38	3 3	.....	N	.....	.....	4	5	0	N	.....	0	0	Cloudy.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.34	745.2	34	1.1	.....	E	.....	.....	4	6	8	NE	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. 0—10.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
Brig Alliance, N. 32° 07', W. 23° 54'	.....	.....	30.28‡	769.1‡	65	18.3	.....	NNE	.....	.....	3	4	.....	.....	D. clouds.....	Capt. W. Scott.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Bell Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship "British Commodore"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
City of Agra, S. 22° 49', W. 19° 57'	.....	.....	30.13‡	765.3‡	77	25.0	.....	ENE	.....	.....	4	4	.....	.....	D. clouds.....	Capt. Thos. Young. Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denbighshire, S. 41° 11,' W. 38° 37'	.....	.....	30.01‡	762.2‡	61	16.1	.....	S	.....	.....	6	10	.....	.....	Misty.....	Capt. H. Murdoch.
Barque Mertole, N. 36° 45', W. 8° 15'	.....	.....	29.88‡	757.7‡	56.3	13.5	.....	NW	.....	.....	8	9	.....	.....	Overcast.....	Capt. E. W. Turner.
S. S. Nizam, N. 16° 26' W. 55° 35'	.....	.....	29.80‡	756.9‡	75	23.9	.....	N	.....	.....	2	2	.....	.....	D. clouds.....	Capt. Barlow. Capt. C. W. Pearson.
Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. McMontry,
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	29.98	761.5	64.0	17.8	80	SE	.....	.....	1	10	.....	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.16	740.6	29.20	741.8	32.9	0.5	90	W	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	
Fanöe	29.35	745.5	29.37	746.0	29.8	— 1.2	78	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	30.29	769.3	30.33	770.4	5.7	—14.6	87	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.58	751.4	29.62	752.3	37.4	3.0	81	N	.....	.....	2	.....	3	.....	.....	.....	.....	.....	
Vestervig	29.16	740.6	29.33	744.9	25 9	— 3.4	82	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	28.87	733.3	29.42	747.3	38.8	3.8	97	SW	.....	.....	1	.....	10	.....	.....	0.016	0.4	Covered	Collignon, Director.
Amiens, Normal School	29.26	743.1	29.37	746.0	40.6	4.8	74	W	.....	.....	1	.....	10	.....	.....	0.079	2.0	Covered	Bonvallet, Director.
Avignon, Normal School	29.36	745.6	29.43	747.6	48.6	9.2	78	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Rainy	M. Giraud, Director.
Bar-sur-Seine	28.82	732.1	29.40	746.7	37.0	2.8	96	WSW	.....	.....	1	.....	10	.....	.....	0.102	2.6	Covered	C. Saillard, Director.
Beauvais, Normal School	29.09	738.9	29.38	746.3	40.5	4.7	69	SSE	.....	.....	1	.....	8	W	S	0.020	0.50	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.52	724.5	29.43	747.4	38.8	3.8	80	S	.....	.....	2	.....	10	.....	SW	0.453	11.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.57	725.6	29.45	748.1	44.6	7	69	W	.....	.....	3	.....	km	W	W	0.04	1.	.....	M. Marlot, Director.
Bourges, Normal School	28.83	732.2	29.38	746.3	41.7	5.4	98	SW	.....	.....	3	.....	10	NW	SW	0.268	6.8	Snowing	A. Waquet, Director.
Brest, Naval Observatory	29.01	736.8	29.25	743.0	47.1	8.4	89	W	.....	.....	2	.....	8	.....	W	0.217	5.50	Raining	M.de Rermaree, Director
Carcassonne, Normal School	29.05	737.9	29.47	748 6	45.3	7.4	75	W	.....	.....	1	.....	5	W	W	0.39	10.	Cloudy	September, Director.
Caen, Normal School	29.24	742.7	29.32	744.6	45.0	7.2	71	S	.....	.....	2	.....	5	.....	E	0.165	4.2	Cloudy	M. Lais, Director.
Chartres, Normal School	28.76	730.4	29.33	744.9	38.5	3.6	80	SW	.....	.....	3	.....	10	.....	.....	0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.10	739.0	29.42	747.3	35.6	2.0	85	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.01	711.5	29.37	745.9	44.8	7.1	49	W	.....	.....	2	.....	10	.....	W	0.063	1.6	.....	Alluard, Director.
Commercy, Normal School	28.62	724.4	29.41	747.0	37.6	3.1	80	W	.....	.....	1	.....	10km	.....	W	1.06	27.	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.32	719.4	29.47	748.4	45.1	7.3	83	N	.....	.....	2	.....	10	.....	NW	0.091	2.3	Covered	M. Kina, Director.
Grenoble, Normal School	28.68	728.4	29.44	747.8	46.4	8	77	E	.....	.....	1	.....	10n	S	.....	0.08	2.	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.16	740.6	29.37	746.0	47.1	8.4	89	W	.....	.....	3	.....	2	.....	W	0.08	2.	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.05	737.9	29.36	745.8	41.4	5.2	87	S	.....	.....	1	.....	8	W	S	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.52	724.8	29.44	747.8	40.8	4.9	78	W	.....	.....	2	.....	5	.....	W	0.268	6.80	Raining	Baudry, Director.
Lorient, Naval Observatory	29.28	742.5	29.33	745.0	51.4	10.8	58	W	.....	.....	4	.....	.....	.....	W	0.181	4.6	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.34	719.7	29.39	746.6	36.7	2.6	89	E	.....	.....	1	.....	km	.....	W	.....	.....	Snowing	M. Barbier, Director.
Nismes, Normal School	29.24	742.6	29.44	747.7	50.7	10.4	72	S	.....	.....	1	.....	10	.....	SW	0	0	Covered	Boyer, Director.
Privas, Normal School	28.40	721.3	29.47	748.4	44.8	7.1	85	S	.....	.....	1	.....	n	SE	S	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.48	621.7	.....	.....	24.6	— 4.1	100	W	.....	.....	8	.....	9	.....	.....	0.591	15.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.30	746.4	29.42	747.2	48.9	9.4	78	W	.....	.....	1	.....	8	W	W	0.08	2.	¾ covered	Lt. Decante, Director.
Rouen, Normal School	29.27	743.4	29.35	745.5	41.4	5.2	77	NW	.....	.....	1	.....	5	.....	W	0.059	1.5	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.26	743.3	29.29	744.0	45.1	7.3	73	S	.....	.....	1	.....	5	S	SW	0.205	5.21	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.22	742.1	29.38	746.3	39.2	4.0	80	S	.....	.....	1	.....	.....	.....	S	0.087	2.2	.....	E. Renou, Director.
Tarbes, Normal School	28.50	723.8	29.60	751.9	48.2	9	61	W	.....	.....	4	.....	2	SSW	SW	0	0	Slightlycl'dy	T. Huguet, Director.
Versailles Observatory	28.87	733.4	29.37	745.9	37.8	3.2	.....	SE	.....	.....	2	.....	10	.....	.....	0.017	0.42	Light fog	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.76	730.5	29.47	748.5	50.0	10	92	NW	.....	.....	1	.....	5	.....	W	0.079	2.0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.7	29.98	761.4	74.1	23.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.51	13.	.....	L'Abbé Marchesi.
Lyons Obs'y, (Park Station)	.....	.....	29.42	747.2	48.0	8.9	48	W	.....	.....	1	.....	8	.....	.....	0.031	0.8	Covered	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.24	615.7	29.60	760.7	28.8	— 1.8	63	N	.....	.....	6	.....	7	.....	.....	0.409	10.4	.....	M. Cave.
Nice	.....	.....	29.40	746.8	54.0	12.2	65	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Dr. A. Nicpce, Jr.
Paris, Montsouris Obs'y	29.10	739.0	.....	.....	39.2	4.0	85	SSE	.....	.....	1	.....	10	.....	.....	0.055	1.4	Covered	Marié Davy, Director.
Perpignan	29.36	745.7	29.47	748.4	46.8	8.2	72	NW	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.84	554.8	.....	.....	25.0	— 3.9	.....	.....	.....	.....	1	.....	10	.....	.....	1.220	31.0	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.76	730.6	29.47	748.6	45.3	7.4	85	SSW	.....	.....	1	.....	10	.....	.....	0.446	11.3	Raining	M. Mercadier Juller.
Tours	29.17	741.0	29.37	746.0	44.6	7.0	74	W	.....	.....	1	.....	6	.....	W	0 087	2.2	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.08	764.0	30.10	764.6	38.1	3.4	76	NW	2.0	0.9	.....	.....	10	.....	.....	0.322	8.2	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 8 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:03 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–12.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.47	723.1	29.29	744.0	36.0	2.2	82	W			3		5	W		0.157	4.0	Snowing	Prof. Dr. Hoh.
Berlin	29.25	742.9	29.43	747.4	31.1	— 0.5	72	NW			1		9			0.024	0.6		Prof. Arndt.
Breslau	28.85	732.7	29.37	745.9	41.2	5.1	70	SSW			2		9			0.022	0.56		Royal University Obs'y
Carlsruhe	28.93	734.9	29.36	745.7	40.6	4.8	62	SE			1		10	SW		0	0		Albert Senz.
Cassel	28.87	733.2	29.46	748.3	29.8	— 1.2	74	N			5		8	NE		0	0		Dr. H. Möhl.
Crefeld	29.24	742.6	29.39	746.6	31.1	— 0.5	77	NE			3		9			0	0		Director Lose.
Emden					25.2	— 3.8	86	E?			0?		0			0	0		Prof. Prestel.
Frankfort on the Main	28.86	733.1	29.22	742.3	36.5	2.5		ESE			1		10			0.114	2.9		Physical Society.
Friedrichshafen	27.94	709.6	29.32	744.6	38.7	3.7	88	SSW			2		10	SW		0.220	5.6	Snowing	M. Wilhelm.
Hamburg	29.37	746.0	29.45	747.9	26.0	— 3.9	77	NW			3		0			Inap.	Inap.	Clear	Captain F. Hegemann.
Kiel	29.37	746.1	29.39	746.4	27.9	— 2.3	78	W			3		3			0.029	0.73	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.28	743.6	29.36	745.8	33.4	0.8	83	W			2		8			0.051	1.3	Snowing	Prof. E. Luther.
Köslin			29.31	744.4	30.6	— 0.8		SW			2		4			0	0		H. Müller.
Leipsic, Observatory	29.03	737.3	29.47	748.4	29.5	— 1.4	76	NNW			2		10	NW		0.035	0.9		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.30	744.2	29.34	745.3	33.8	1.0	96	S			2		10						Skalweit.
Neufahrwasser	29.36	745.6	29.37	746.0	35.4	1.9	73	S			1		10			0.154	3.9		A. Lothes.
Posen	29.13	740.0	29.43	747.6	31.3	— 0.4	100	NW			5		10			0	0		Dr. Magener.
Strassburg (in Alsace)	28.84	732.4	29.39	746.6	38.3	3.5	82	Calm			0		10			0.226	5.76	Rain & snow	Imp. University Observatory.
Stuttgart	28.40	721.4	29.30	744.3	39.2	4.0	56	W			1		10			0.094	2.4		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.86	707.6	29.09	738.9	34.7	1.5	73	SE	1.1	0.5			10			0.189	4.8		Dr. Van Bebber.
Wustrow, Naval School	29.29	744.0	29.32	744.6	26.8	— 2.9	100	WSW			6		10s			0.094	2.4		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,356.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.37	746.0	29.76	756.0	59.5	15.3		SW			2.0							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.83	757.6	29.88	758.9	79.6	26.4	47	NNW	12	5.4			1			0	0	D. clouds	
Deesa	29.36	745.7	29.83	757.8	80.2	26.8	28	NNW	6.4	2.9			0			0	0	Blue sky	
Bombay	29.78	756.4	29.82	757.4	79.5	26.4	67	W	6	2.7			0			0	0	Blue sky	
Lahore	29.17	741.0	29.94	760.4	66.6	19.2	60	E	2.0	0.9			0			0	0	D. clouds	
Belgaum	27.28	692.8	29.79	756.7	79.9	26.6	54	W	15	6.7			6		WSW	0	0	D. clouds	
Roorkee	28.93	734.8	29.84	758.0	69.8	21.0	57	NW	2	0.9			1			0	0	D. clouds	
Agra	29.34	745.4	29.93	760.1	67.8	19.9	45	W								0	0		
Nagpur	28.76	730.5	29.80	756.8	83.1	28.4	29	Calm	2.1	0.9			4		E	0	0	D clouds	
Lucknow	29.45	748.1	29.83	757.7	70.8	21.6	51	SSW	6.6	0.3						0	0	Blue sky	
Allahabad	29.52	749.8	29.83	757.8	75.6	24.2	50	Calm	2.0	0.9			0			0	0	Blue sky	
Patna	29.64	752.8	29.82	757.4	77.3	25.2	50	W	1.0	0.4			2	W	W	0	0		
Hazaribagh	27.78	705.6	29.80	757.0	73.8	23.2	41	WNW	6.8	3.0			0			0.02	0.5	Blue sky	
Cuttack	29.83	757.7	29.91	759.8	82.8	28.2	42	SE	2.4	1.1			3			0	0	D. clouds	
Calcutta (Alipore)	29.79	756.6	29.81	757.2	77.2	25.1	55	NW	1.0	0.4			3			0	0	D. clouds	
Goalpara	29.36	745.8	29.75	755.7	75.4	24.1	42	W	2.4	1.1			0			0	0	Blue sky	
Chittagong	29.71	754.7	29.81	757.1	78.1	25.6	54	WNW	6.3	2.8			0			0	0		
Sibsagar	29.45	748.0	29.79	756.7	69.8	21.0	75	SW	0.7	0.3			4			0	0	Blue sky	
Jubbulpore	28.46	722.8	29.85	757.7	75.7	24.3	50	Calm	1.7	0.8			2			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.04	737.5	29.45	748.0	48.9	9.4	70	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.81	744.5	29.42	747.3	48.0	8.9	70	E	6.3	2.8	.....	.....	10	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	28.81	731.8	29.33	745.0	40.5	9.9	56	SE	.....	.....	2	.....	8	SW	.....	0.890	23.6	.....	Prof. Schiaparelli.
Moncalieri	28.50	723.9	29.42	747.3	47.6	8.6	40	N	10.5	4.7	.....	.....	6	N	.....	0.079	2.0	.....	Prof. P. F. Denza.
Mondovi	27.45	697 3	29.39	746.6	43.5	6.4	48	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.22	742.1	29.41	747.0	52.7	11.5	67	S	5.6	2.5	.....	.....	10	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.19	741.3	29.45	747.9	54.9	12.7	82	NE	.....	.....	2	.....	10	SW	.....	0.224	5.7	.....	Cav. F Meucci.
Leghorn	29.33	744.9	29.41	747.1	54.3	12.4	84	W	5.6	2.5	.....	.....	10	S	.....	1.181	30.0	.....	Prof. P. Monte.
Pesaro	29.37	746.1	29 42	747.3	55.8	13.2	62	S	6.3	2.8	.....	.....	10	S	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.34	745.1	29.51	749.6	55.9	13.3	91	S	3.8	1.7	.....	.....	10	.....	.....	0.394	10.0	.....	Prof. P S. Ferrari.
Lecce	29.41	747.1	29.67	753.6	55.4	13.0	88	SW	8.1	3.6	.....	.....	8	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.39	746.5	29.58	751.4	62.1	16.7	64	W	.....	.....	4	.....	5	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.81	731.8	29.70	754.3	55.8	13.2	78	SE	8.7	3.9	.....	.....	10	.....	.....	0.339	8.6	.....	Prof. D. Conti.
Palermo	29.45	748.1	29.71	754.5	66.2	19.0	48	WSW	25.5	11.4	.....	.....	4	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.72	754.9	29.79	756.7	63.1	17.3	71	SSW	15.0	6.7	.....	.....	7	WSW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.06	738.2	29.62	752.3	55.4	13.0	96	SW	6.3	2.8	.....	.....	10	.....	.....	0.016	0.4	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.64	752.8	29.66	753.3	41.5	5.3	85	NNE	11.6	5.2	.....	.....	10n	.....	.....	1.185	30.10	Light rain...	K. Sasaki.
Nagasaki, I. M. Obs'y	29.57	751.1	29.77	756.1	46.9	8.3	84	NNW	14.7	6.6	.....	.....	8s	.....	.....	0.700	17.78	.....	S. Takehayashi.
Tokei (Yeddo) Observatory	29.70	754.4	29.78	756.4	38.9	3.8	94	N	8.2	3.7	.....	.....	10n	.....	.....	3.016	76.58	Raining.....	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca																			P. Ceballos.
Guadalajara	25.10	637.4	30.22	767.7	41.9	5.5	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	Prof. L. Perez
Leon	24.45	621.1	30.10	764.7	53.1	11.7	74	SW	.....	.....	1	1c	0	.....	.....	0	0	Clear.....	Prof. M. Leal
Mexico, Central Obs'y	23.06	585.8	30.22	767.6	45.0	7.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Fine.....	The Staff.
Pabellon, (Aguascalientes)					55.2	12.9	60	SSW	.....	.....	1	1clc	2ks	SW	SW	0.059	1.5	Bright.....	M. V. de Leon, M. E.
Tlacotalpam	30.00	762.0	30.02	762.4	68.9	20.5	90	S	.....	.....	2	0	0	.....	.....	0	0	Hazy.....	M. M. Cházaro.
San Luis Potosi	24.17	613.8	30.14	765.6	60.0	10 0	75	NNE	.....	.....	1	0	6	.....	W	0.049	1.1	Cloudy.....	G. Barroeta, M. D.
Vera-Cruz	29.98	761.6	30.01	762.3	69.8	21.0	86	NW	.....	.....		c	1s	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas																			T. G. de la Cadena.
Puebla, (Catholic Institute)	23.36	593.4	30.11	764.9	41.7	5.4	43	NNE	0.4	0.2	.....	.....	.....	.....	.....	0	0	Clear.....	Prof. P. Spina.
Durango																			M. V. de Leon, C. E.
Colima	28.41	721.7	30.09	764.3	70.9	21.6	63	NE	.....	.....	2	0	0	.....	.....	0	0	Clear.....	R. Banda, C. E.
San Juan E. Michapam	30.01	762 1	30.14	765.5	67	19.4	.....	Calm	.....	.....	0	.....	.....	.....	.....	0.217	5.5	Cloudy.....	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.42	747.2	29.42	747.2	35.6	2.0	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.41	747.1	29.47	748.5	28.8	— 1.8	.....	SE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.44	747.8	29.44	747.8	29.8	— 1.2	.....	ENE	.....	.....	1	.....	.....	.....	.....			.....	
Hellevoetsluis	29.41	746.9	29.41	746.9	31.8	— 0.1	83	ENE	.....	.....	2	.....	.....	.....	.....			.....	
Utrecht	29.39	746.6	29.44	747.8	31.5	— 0.3	75	ENE	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.28	743.6	29.33	745.0	31.3	— 0.4	52	E	17.7	7.9	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.46	748.3	29.50	749.3	28.4	— 2.0	70	SSE	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.34	745.1	29.49	749.0	21.9	— 5.6	77	NNE	4	2	.....	.....	10	.....	.....	0.008	0.2	Snowing	
Tromsö	29.41	746.9	29.45	748.0	27.7	— 2.4	87	SW	20	9	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.14	765.6	30.34	770.5	55.8	13.2	82	E	7.4	3.3	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.67	728.1	29.72	754.8	47.3	8.5	83	WNW	29.8	13.3	.....	.....	10	SW	.....	0.118	3.0	Light rain	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.11	764.8	30.20	767.0	64.4	18.0	55	SW	4.3	1.9	.....	.....	5	.....	.....	0.016	0.4	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.47	748.5	29.83?	757.7?	50.9	10.5	62	NW	31.1	13.9	.....	.....	3	.....	.....	0.315	8.0	.....	The Staff.
Ponta Delgada, (Azores)	30.26	768.6	30.33	770.4	57.2	14.0	78	NE	15.0	6.7	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—																		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	V. M. de Sande, Com'd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.85	758.2	84.2	29.0	.....	SW	.....	.....	1	.....	2	.....	SW	0	.....	D. clouds	V. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da SilvaCosta, Porto Praya, Cape Verd Islands	.....	.....	29.99	761.7	75.6	24.2	.....	NNE	.....	.....	4	.....	3	.....	NNE	3	NNE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.74	755.4	83.3	28.5	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	29.96	761.0	66.6	19.2	.....	ENE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	28.97	735.7	29.39	746.6	38.8	3.8	70	Calm	0	0	.....	.....	9ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.98	736.2	29.41	747.0	35.1	1.7	93	E	2	1	.....	.....	10	.....	.....	.....	.....	Snowing	Astronomical Obs.
Dorpat	29.41	746.9	29.66	753.3	28.8	— 1.8	84	ESE	9	4	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.79	756.7	29.81	757.1	32.9	0.5	76	ESE	9	4	.....	.....	2ck	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	28.65	727.6	29.30	744.1	34.7	1.5	94	E	13	6	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.23	742.5	29.30	744.3	41.4	5.2	94	S	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.54	750.3	29.56	750.8	48.9	9.4	87	SSE	9	4	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.29	743.9	29.85	758.3	38.4	0.8	85	S	9	4	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.47	748.6	29.68	753.9	34.9	1.6	89	ENE	22	10	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.98	761.5	30.00	762.0	29.8	— 1.2	88	ENE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.48	723.4	29.91	759.6	51.8	11.0	37	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.96	761.0	29.88	758.9	48.0	8.9	54	SSW	2	1	.....	.....	7k	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.39	746.5	29.80	759.2	23.7	— 4.6	78	NE	11	5	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.71	754.5	29.99	761.8	18.1	— 7.7	75	NNE	2	1	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.18	741.2	30.23	767.8	14.5	— 9.7	83	NE	4	2	.....	.....	1s	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.84	758.0	30.08	764.1	42.1	5.6	62	N	2	1	.....	.....	9s	.....	.....	.....	.....	.....	
Tashkend	28.32	719.2	29.98	761.6	64.4	18.0	34	NE	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.33	745.0	29.88	758.9	8.1	—13.3	69	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.17	766.4	30.52	775.2	—25.8	—32.1	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.80	756.9	29.94	760 5	26.8	— 2.9	59	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.08	764.0	30.18	766.5	7.0	—13.9	96	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.26	743.3	29.37	746.0	52.7	11.5	65	E	6.0	2.69	.....	.....	10	.....	.....	1.022	25.94	Covered	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.49	749.1	29.55	750.6	40.6	4.8	94	NW	2.0	0.91	.....	.....	10	.....	.....	1.035	26.3	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.50	673.2	.....	.....	32.0	0.0	97	N	15.5	6.92	.....	.....	10	.....	.....	0.512	13.0	Snowing	Domingo Martin y Perez.
Madrid, Royal Observatory	27.19	690.7	.....	.....	44.1	6.7	95	SW	18.6	8.33	.....	0	10	.....	.....	0.150	3.8	Raining	The Staff.
Murcia, Met. Obs'y	29.39	746.4	29.54	750.2	68.5	20.3	55	WNW	9.8	4.39	.....	5	4	N	.....	0	0	Almost cov'd	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.72	729.4	29.64	752.9	42.6	5.9	72	NW	6.9	3.1	.....	.....	10	.....	.....	0.972	24.7	Snowing	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I.	30.11	764.8	30.18	766.5	63.0	17.2	74	ESE	4.5	2.0	.....	.....	9k	.....	E	0	0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	29.75	755.7	29.80	757.1	82.4	28.0	69	NW	8.3	3.7	.....	.....	n	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.78	756.4	29.88	758.9	59.5	15.3	84	WSW	25.3	11.3	.....	0	10	.....	W	0.016	0.4	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.97	761.2	30.06	763.5	76.3	24.6	83	E	17.0	7.58	.....	4k	5kn	E	E	0.059	1.50	Cloudy	Leonardo de Tejada, Ch'f. Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.0	29.72	755.0	24.8	— 4.0	.....	S	.....	.....	2	.....	10	.....	.....	0.236	6.0	.....	
Umea	29.68	753.8	29.73	755.1	22.3	— 5.4	85	SW	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.62	752.4	29.67	753.7	11.8	—11.2	93	Calm	.....	.....	0	.....	1	.....	.....	0.059	1.5	.....	
Stockholm	29.22	742 3	29.40	746.8	26.6	— 3.0	100	ENE	.....	.....	7	.....	10	.....	.....	0,055	1.4	Snowing.....	
Wisby	29.22	742.3	29.28	743.8	32.7	0.4	89	SE	.....	.....	6	.....	10	.....	.....	0.051	1.3	Snowing.....	
Sub-Series.																			
Upsala	29.36	745.8	29.44	747.7	23.9	— 4.5	93	NE	14.5	6.5	.....	.....	10	.....	.....	0.126	3.20	Snowing.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.99	711.0	29.46	748 2	41.5	5.3	71	WSW	.....	.....	4	.....	9	.....	.....	0.020	0.5	Covered.....	The Observatory.
Zurich	27.75	704.9	29.44	747.9	36.7	2.6	92	SE	.....	.....	2	.....	10	.....	.....	0.031	0.8	Covered.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —14.9 mm.; Thermometer, +0.6 cent.; Relative Humidity, +3 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.69	754.2	54.7	12.6	55	SSW	9	4.0	.....	.....	8	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.72	755.0	55.8	13.2	.....	S	.....	.....	2	.....	10	.....	.....	0.08	2.	Covered.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.91	759.7	30.03	762.8	66.6	19.2	58	SW	.....	.....	3	.....	7c	.....	.....	0	0	D. clouds....	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.28	743.7	29 35	745.5	5.5	—14.7	90	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.72	754.9	30.06	763.5	— 7	—21.7	.....	Calm	0	0	.....	.....	8s	.....	SW	0	0	Cloudy.....	W. R. Rigg.
*Chatham, N B	29.31	744.5	29.38	746.2	3	—16.1	84	W	20	8.9	.....	5ck	0	W	.....	0.69	17.5	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.19	741.4	29.23	742.4	7	—13.9	98	W	13	5.8	.....	2c	5s	NW	Calm	1.20	30.5	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.79	756.7	30.01	762.2	— 4.5	—20.3	100	W	.....	.....	1	.....	10s	.....	.....	0	0	Overcast....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	29.65	753.1	29.67	753.6	2	—16.7	67	NW	30	13.4	.....	5k	2s	N	NW	0.10	2.5	Fair.....	J. McWilliams.
Fredericton, N. B	29.44	747.8	29.51	749.5	3.6	—15.8	82	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	28.88	733.5	29.86	756.9	— 5	—20.6	100	NW	16	7.2	.....	Haze	5ks	NW	NW	0	0	Fair.....	James Stewart.
Granton, Ontario	28.59	726.2	29.76	755.9	17	— 8.3	.....	SE	.....	.....	1	.....	10n	.....	.....	0.20	5.1	Light snow..	James Grant.
*Halifax, N. S	29.19	741.4	29.33	745.0	9	—12.8	94	W	18	8.0	.....	.....	10ks	.....	W	0.250	6.35	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.47	748.5	29.87	758.7	15.7	— 9.1	91	NW	.....	.....	1	10cs	0	NW	.....	0.15	3.8	Snowing.....	Geo. Dickson, M. A.
Heart's Conteut, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753 4	30.03	762.8	0	—17.8	79	NE	1	0.4	.....	10cs	0	SW	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.07	738.8	29.01	736.8	18.2	— 7.7	94	W	8	3.6	.....	6k	.....	W	.....	0.130	3.30	Fair.....	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.78	756.4	30.01	762.2	0	—17.8	94	SW	16	7.2	.....	8k	2s	NW	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.04	737.6	29.79	756.7	12	—11.1	90	E	21	9.4	.....	.....	10n	.....	E	0.05	1.3	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.07	738.4	29.88	758.9	8.7	—12.9	57	Calm	.....	.....	.....	.....	10n	.....	.....	.....	.....	Snowing.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.08	738.6	29.81	757.2	20	— 6.7	99	SE	6	2.7	.....	.....	10n	.....	SE	0.15	3.8	Light snow..	H. Morgan.
Port Hastings, N. S	29.11	739.4	29.16	740.7	8.9	—12.8	.....	NW	10	4.5	.....	.....	.....	.....	.....	0.20	5.1	Snowing.....	Peter Grant.
Port Stanley, Ontario	29.10	739.1	29.79	756.7	21	— 6.1	96	E	15	6.7	.....	.....	10n	.....	E	0.20	5.1	Light snow..	M. Payne.
*Quebec, Quebec	29.52	749.8	29.88	758.9	— 3	—19.4	83	NW	.....	.....	5	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.43	747.5	29.95	760.7	— 2	—18.9	84	E	8	3.6	.....	.....	10s	.....	SE	0	0	Threatening	W. H. McIntyre.
St. Andrews, N. B	30.21	767.3	30.26	768.6	24	— 4.4	75	NW	.....	.....	1	0	0	.....	.....	0.05	1.3	Clear.....	Dr. Gove.
St. John, N. B	29.31	744.5	29.49	749.0	5	—15.0	87	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	28.98	736.1	29.74	755.4	19	— 7.2	86	S	16	7.2	.....	.....	10s	.....	.....	0.04	1.0	Light snow..	K. Stewart.
Stayner, Ontario	28 91	734.3	29.75	755.6	15	— 9.4	93	SE	13	5.8	.....	.....	10n	.....	SE	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.41	721.6	29.78	756.4	15.3	— 9.3	95	S	5	2.2	.....	.....	10s	.....	.....	0.45	11.4	Snowing.....	C. J. MacGregor, M. A.
*Sydney, C. B	28.93	734.8	28.97	735.8	18	— 7.8	79	W	16	7.2	.....	8k	Haze	NW	.....	0.40	10.2	Fair.....	T. C. Hill.
*Toronto, Ontario	29.44	747.8	29.81	757.0	20	— 6.7	94	SE	18	8.0	.....	.....	10ks	.....	SE	0.100	2.54	Light snow.	Magnetic Observatory.
Windsor, N. S	29.26	743.2	29.36	745.7	8.0	—13.3	100	NW	16	7.2	.....	8k	0	.....	.....	0	0	Cloudy.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	29.0	— 1.7	100	S	.....	.....	.....	.....	10ks	10n	.....	0.45	11.4	Cloudy.....	John Delany.

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millim's.	Weather.	Observer.
Albany, New York	29.81	757.2	30.06	763.5	2	—16.7	72	N	1	0.4	.....	5c	0	NW	.....	0	0	Fair	
Alpena, Michigan	28.95	735.3	29.62	752.3	18	— 7.8	84	SW	14	6.3	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Atlanta, Georgia	28.97	735.8	30.15	765.8	42	5.6	49	SW	12	5.4	.....	2k	Sm'e	SW	Calm	0	0	Smoky	
Atlantic City, New Jersey	30.16	766 1	30.17	766.3	16	— 8.9	66	NW	2	0.9	.....	0	8s	.....	Calm	0	0	Cloudy	
Augusta, Georgia	30.09	764.3	30.28	769.1	33	0.6	70	Calm	0	0	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Baltimore, Maryland	30.11	764.8	30.16	766.1	24	— 4.4	87	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	30.11	764.8	30.14	765.5	16	— 8.9	83	NW	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Bismarck, Dakota	28.08	713.2	29.93	760.2	10	—12.2	79	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.46	722.9	29.75	755.6	60	15.6	88	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.34	694.4	30.30	769.6	37	2.8	80	S	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Boston, Massachusetts	29.78	756.4	29 95	760.7	11	—11.7	50	W	14	6.3	.....	5cs	2s	NW	Calm	0	0	Fair	
Bracketville, Texas	28.77	730.7	29.79	756.7	60	15.6	94	NE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	
Breckenridge, Minnesota	28.86	733.0	29.97	761 2	— 1	—18.3	100	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.80	756.9	29.87	758.7	64	17.8	94	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.09	738.9	29.83	757.7	20	— 6.7	85	SE	7	3.1	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Burkes, Arizona	.....	.....	.....	.....	50	10.0	2	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear	
Burlington, Vermont	29.74	755.4	30.06	763.5	2.5	—16.4	59	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cairo, Illinois	29.48	748.8	29.87	758.7	51	10.6	79	W	15	6.7	.....	.....	10n	.....	W	0.08	2.0	Light rain	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.20	640.1	30.00	762 0	46	7.8	54	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	40	4.4	56	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp, California	27.44	697.0	30.01	762.2	31	— 0.6	69	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.24	768.1	30.25	768.3	34	1.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.16	766.1	30.18	766.6	27	— 2.8	64	SW	7	3.1	.....	8cs	0	Calm	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.24	768.1	30.26	768.6	38	3.3	45	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	30.14	765.5	30.17	766.3	24	— 4.4	74	NW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	29.14	740.1	29 83	757.7	63	17.2	89	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	30.21	767.3	30.27	768.8	43	6.1	36	W	3	1.3	.....	0	Sm'e	.....	W	0	0	Clear	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	27	— 2.8	88	SW	6	2.7	.....	0	8s	.....	Calm	0	0	Cloudy	
Chicago, Illinois	29.05	737.9	29.75	755.6	36	2.2	90	W	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.15	740.4	29.80	756.9	43	6.1	59	SW	6	2.7	.....	.....	10n	.....	W	Inap.	Inap.	Light rain	
Cleveland, Ohio	29.01	736.8	29.76	755.9	28	— 2.2	88	SE	18	8.0	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Coleman City, Texas	28.10	713.7	29.76	755.9	50	10.0	93	S	4	1 8	.....	.....	8s	.....	W	0	0	Fair	
Columbus, Ohio	28.91	734.3	29.76	755.9	35	1.7	80	S	6	2.7	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Corpus Christi, Texas	27.94	709.7	29.58	751.3	57	13.9	57	SW	4	1.8	.....	10k	0	SW	.....	0	0	Cloudy	
Corsicana, Texas	29.42	747.2	29.88	758.9	62	16.7	83	S	12	5.4	.....	.....	10s	.....	S	0	0	Threatening	
Davenport, Iowa	29.24	742.7	29.88	758.9	36	2.2	61	NW	21	9.4	.....	.....	10s	.....	W	0	0	Cloudy	
Deadwood, Dakota	25.32	643.1	.....	.....	31	— 0.6	69	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Decatur, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Denison, Texas	29.05	737.9	29.83	757.7	60	15.6	88	S	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Denver, Colorado	24.77	629.2	29.99	761.7	37	2.8	71	N	2	0.9	.....	2ck	5s	Calm	Calm	0	0	Fair	
Des Moines, Iowa	29.06	738.1	29.90	761.0	35	1.7	70	NW	4	1.8	.....	.....	5s	.....	NW	0	0	Fair	
Detroit, Michigan	29.00	736.6	29.68	753.9	30	— 1.1	89	SW	5	2.2	.....	.....	10n	.....	Calm	0.05	1.3	Light snow	
Dodge City, Kansas	27.47	697.7	29.86	758.4	31	— 0.6	89	N	4	1.8	.....	0	2s	.....	W	0	0	Fair	
Dubuque, Iowa	29.14	740.1	29.85	758.2	33	0.6	79	NW	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	28.96	735.6	29.69	754.1	4	—15.6	87	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.11	739.4	29.83	757.7	62	16.7	88	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.46	748.3	29.54	750.3	8	—13.3	66	NW	36	16.1	.....	0	0	.....	.....	0.08	2.0	Clear	
Edinburg, Texas	.....	.....	.....	.....	65	18.3	89	S	.....	.....	4	.....	8s	.....	S	0	0	Cloudy	
El Paso, Texas	26.24	666.5	.....	.....	55	12.8	34	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.03	737.3	29.77	756.1	26	— 3.3	88	S	19	8.5	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Escanaba, Michigan	28.86	733.0	29.53	750.0	22	— 5.6	86	SW	9	4.0	.....	0	0	.....	.....	0.09	2.3	Clear	
Florence, Arizona	28.50	723.9	30.10	764.5	47	8.3	48	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.95	709.9	.....	.....	4	—15.6	74	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.51	647.9	29.57	751.1	35	1.7	52	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.16	639.0	30.12	765.0	49	9.4	37	W	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Gibson, Indian Ter	29.32	744.7	29.86	758.4	52	11.1	79	N	14	6.3	.....	5cs	0	NW	.....	0	0	Fair	
Fort Griffin, Texas	28.64	727.4	29.91	759.7	51	10.6	86	NW	4	1.8	.....	2k	0	NW	.....	0	0	Fair	
Fort Keogh, Montana	27.39	695.7	.....	.....	20	— 6.7	85	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.64	702.0	29.52	749.8	59	15.0	82	SW	17	7.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.68	728.5	29.80	756.9	44	6.7	76	N	24	10.7	.....	0	2s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.07	713.0	.....	.....	7	—13.9	77	NW	.....	.....	2	1ck	0	Calm	.....	0	0	Fair	
Fredericksburg, Texas	28.15	715.0	29.68	753.9	61	16.1	83	SW	12	5.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.95	760.7	29.99	761.7	60	15.6	94	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	28.79	731.3	29.84	757.9	52	11.1	60	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Grand Haven, Michigan	29.02	737.1	29.68	753.9	36	2.2	71	NW	14	6.3	.....	0	5s	.....	NW	Inap.	Inap.	Fair	
Indianapolis, Indiana	28.97	735.8	29.76	755.9	37	2.8	90	SW	1	0.4	.....	.....	10n	.....	W	0.17	4.3	Light rain	
Indianola, Texas	29.96	761.0	29.98	761.5	63	17.2	89	S	11	4.9	.....	1cs	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.72	729.5	29.85	758.2	50	10.0	65	N	12	5.4	.....	5cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.27	768.8	30.30	769.6	40	4.4	82	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Keokuk, Iowa	29.24	742.7	29.87	758.7	37	2.8	67	N	9	4.0	.....	1k	0	W	.....	Inap.	Inap.	Clear	
Key West, Florida	30.17	766.3	30.21	767.3	62	16.7	77	NE	14	6.3	.....	4e;k	0	W;E	.....	0	0	Fair	
Kittyhawk North Carolina	30.20	767.1	30.22	767.6	30	— 1.1	69	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.04	737.6	30.10	764.5	33	0.6	84	E	2	0.9	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
La Crosse, Wisconsin	29.09	738.9	29.85	758.2	25	— 3.9	75	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	40	4.4	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.50	749.3	29.83	757.7	62	16.7	88	S	4	1.8	.....	10ck	0	SW	.....	0	0	Cloudy	
Leavenworth, Kansas	29.13	739.9	30.00	762.0	37	2.8	63	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.70	754.4	30.04	763.0	51.0	10.6	93	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.27	743.4	29.82	757.4	46	7.8	69	SW	8	3.6	.....	.....	10n	.....	S	0.15	3.8	Heavy rain	
Lynchburg, Virginia	29.40	746.7	30.11	764.8	32	0.0	79	S	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Madison, Wisconsin	28.76	730.5	29.76	755.9	32	0.0	79	W	13	5.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Marquette, Michigan	28.71	729.2	29.41	747 0	28	— 2.2	54	NW	16	7 2	.....	0	0	.....	.....	0.20	5.1	Clear	
Mason, Texas	28.24	717.3	29.26	761.0	61	16.1	88	SW	20	8.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.59	751.6	29.90	759.4	56	13.3	74	SW	14	6 3	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Milwaukee, Wisconsin	29.00	736.6	29.74	755.4	33	0.6	70	NW	21	9.4	.....	1c	5s	N	NW	0	0	Fair	
Mobile, Alabama	30.15	765.8	30.19	766.8	51	10.6	93	S	3	1.3	.....	5c;k	0	W;SW	.....	0	0	Clear	
Montgomery, Alabama	29.96	761.0	30.21	767.3	40	4.4	82	SE	1	0.4	.....	2c	Sm'e	W	Calm	0	0	Clear	
Morgantown, West Virginia	28.80	731.5	29.86	758.4	39	3.9	73	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.04	585.2	29.40	746.7	—10	—23.3	54	NW	102	45.6	.....	8c	0	NW	.....	0	0	Fair	
Nashville, Tennessee	29.38	746.2	29.92	760.0	49	9.4	78	S	4	1.8	.....	.....	10ks	.....	S	0	0	Cloudy	
New Haven, Connecticut	29.95	760.7	30.07	763.8	15	— 9.4	82	NW	6	2.7	.....	5cs	5s	Calm	Calm	0	0	Cloudy	
New London, Connecticut	29.98	761.5	30.04	763.0	13	—10.6	54	NW	8	3.6	.....	6ck	0	NW	.....	0	0	Fair	
New Orleans, Louisiana	30.06	763.5	30.12	765.0	54	12.2	80	SE	10	4.5	.....	0	2s	.....	S	0	0	Fair	
Newport, Rhode Island	29.93	760.2	29.99	761.7	15	— 9.4	82	NW	20	8.9	.....	.....	10s	.....	NW	0	0	Cloudy	
New York, New York	30.02	762.5	30.22	767.6	13	—10.6	62	NW	4	1.8	.....	Haze	8s	Calm	Calm	0	0	Cloudy	
Norfolk, Virginia	30.14	765.5	30.20	767.1	29	— 1.7	78	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
North Platte, Nebraska	27.13	689.1	29.85	758.2	28	— 5.0	73	NW	2	0.9		10cs	Haze	Calm	Calm	0	0	Cloudy	
Olympia, Washington Ter.	30.10	764.5	30.14	765.5	41.2	5.1	91	S	4	1.8			10n		Calm	0.11	2.8	Light rain	
Omaha, Nebraska	28.84	732.5	29.97	761.2	36	2.2	53	NW	10	4.5		5c	0	NW		0	0	Fair	
Oswego, New York	29.69	754 1	30.04	763.0	15	— 9.4	82	SE	8	3.6			10s		Calm	Inap	Inap.	Cloudy	
Pembina, Dakota	28.91	34.3	29.84	757.9	— 8	—22.2	100	NW	14	6.3		0	0			0	0	Clear	
Philadelphia, Pa	30.09	764.3	30.15	765.8	18	— 7.8	84	SW	4	1.8		10cs	Fog	W	Calm	0	0	Cloudy	
Phœnix, Arizona	28.84	732.5	30.68	779.3	49	9.4	64	E	3	1.3		2ck	0	NW		0	0	Fair	
Pike's Peak, Colorado	17.63	447.8	29.84	757.9	6	—14.4	76	W	16	7.2			10s		W	0	0	Cloudy	
Pioche, Nevada	24.13	612.9	29.90	759.4	39	3.9	31	N	11	4.9		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.03	737.3	29.87	758.7	26	— 3.3	88	S	5	2.2			10n		Calm	0.05	1.3	Light snow.	
Port Huron, Michigan	29.01	736.8	29.09	754.1	25	— 3.9	100	S	8	3.6			10n		Calm	0.02	0.5	Light snow.	
Portland, Maine	29.79	756.7	29.84	757.9	14	—10.0	64	NW	12	5.4		1k	0	Calm		0	0	Clear	
Portland, Oregon	30.18	766.6	30.28	769.1	36.0	2.2	95	SE	3	1.3		0	Fog		Calm	0.02	0.5	Clear	
Prescott, Arizona	24.78	629.4	30.14	765.5	34	1.1	61	N	1	0.4		0	0			0	0	Clear	
Pilot Point, Texas	29.11	739.4	29.94	760.5	50	10.0	93	SE	13	5.8		8k	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.24	768.1	30.26	768.6	50	10.0	72	NE	7	3.1		0	0			0	0	Clear	
Red Bluff, California	29.82	757 4	30.20	767.1	46	7.8	84	NW	4	1.8		0	0			0	0	Clear	
Rio Grande City, Texas	29.67	753.6	29.88	758.9	63	17.2	89	SE	4	1.8		5ck	0	Calm		0	0	Fair	
Rochester, New York	29.31	744.5	29 97	761.2	12	—11.1	80	SE	8	3.6			10n		Calm	0.03	0.8	Light snow.	
Roseburg, Oregon	29.70	754.4	30.29	769.4	36.5	2.5	95	E	5	2.2		Haze	8s		Calm	0	0	Cloudy	
Sacramento, California	30.07	763.8	30.15	765.8	60	10.0	93	Calm	0	0		0	Fog		Calm	0	0	Foggy	
St. Louis, Missouri	29.38	746.2	29.96	761.0	44	6.7	84	NW	14	6.3			10s		W	0.35	8.9	Cloudy	
St. Marks, Florida	30.25	768.1	30.25	768.3	34	1.1	90	NW	3	1.3		0	0			0	0	Clear	
St. Paul, Minnesota	28.94	735.1	29.82	757.4	14	—10.0	63	W	9	4.0		0	0			0	0	Clear	
Salt Lake City, Utah	25.80	655.3	30.13	765.3	37	2.8	53	NE	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.23	742.4	29.80	756.9	63	17.2	89	S	4	1.8			10s		Calm	Inap.	Inap.	Threatening	
San Diego, California	30.00	762.0	30.07	763.8	52	11.1	100	SW	2	0.9			Fog			0	0	Foggy	
Sandusky, Ohio	29.05	737.9	29.73	755.1	34	1.1	90	SW	17	7.6			10s		Calm	0.02	0.5	Cloudy	
Sandy Hook, New Jersey	30.08	764.0	30.11	764.8	15	— 9.4	65	NW	16	7.2		5k	5s	NW	NW	0	0	Cloudy	
San Francisco, California	30.11	764.8	30.18	766.6	52	11.1	79	E	1	0.4		0	0			0	0	Clear	
Santa Fé, New Mexico	23.23	590.0	29.77	756.1	34	1.1	70	N	4	1.8			10s		Calm	0	0	Cloudy	
Savannah, Georgia	30.19	766.8	30.29	769.4	40	4 4	82	SW	1	0.4			Fog		Calm	0	0	Foggy	
Shreveport, Louisiana	29.74	755.4	29.96	761.0	61	16.1	77	S	5	2.2			10s		SW	0	0	Cloudy	
Silver City, New Mexico	24.30	617 2	30.04	778.2	35	1.7	70	Calm	0	0		0	0			0	0	Clear	
Smithville, North Carolina	30.25	768.3	30.29	769.4	41	5.0	82	S	8	3.6		8ck	0	W		0	0	Cloudy	
Springfield, Massachusetts	29.90	759.4	30.04	763.0	11	—11.7	60	SW	4	1.8			10s		SW	0	0	Cloudy	
Stockton, Texas	26.88	682.7	29.88	758.9	51	10.6	59	SW	12	5.4		0	0			0	0	Clear	
Thatcher's Island, Mass	29.78	756.1	29.78	756.4	17	— 8.3	67	W	27	12.1		2k	0	W		0	0	Fair	
Toledo, Ohio,	29.00	736.6	29.39	754.1	35	1.7	70	S	16	7.2			10s		Calm	Inap.	Inap.	Cloudy	
Tucson, Arizona	27.66	702.6	30.21	767.3	46	7.8	54	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.85	758.2	30.38	771.6	30.0	— 1.1	89	SE	8	3.6		0	5ks		Calm	0	0	Fair	
Unalashka, Aleutian Islands					17	— 8.3	100	W			6		10s		NW	Blank	Blank	Cloudy	
Uvalde, Texas	29.01	736.8	29.82	757.4	62	16.7	83	S	3	1.3			10s		Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.84	757.9	30.10	764.5	52	11.1	86	S	6	2.7		0	5s		SW	0	0	Fair	
Virginia City, Montana	24.27	616.4	29.75	755.6	30	— 1.1	57	SW	16	7.2		0	0			0	0	Clear	
Visalia, California	29.77	756.1	30.15	765.8	44.5	6 9	90	N	2	0.9		0	Fog		Calm	0	0	Fair	
Washington, D. C.	30.03	762 8	30.16	766.1	24	— 4.4	61	S	7	3.1			10s		SW	0	0	Cloudy	
Wickenburg, Arizona					44	6.7	60	NW			1	10cs	0	Calm		0	0	Cloudy	
Wilmington, N. Carolina	30.18	766.6	30.25	768.3	36	2.2	61	SE	3	1.3		10ck	0	W		0	0	Cloudy	
Winnemucca, Nevada	25.82	655.8	30.18	766.6	26	— 3.3	88	NE	9	4.0		0	0			0	0	Clear	
Wood's Holl, Mass	29.88	758.9	29.92	760.0	14	—10.0	63	NW	28	12.5		5cs	5s	NW	NW	0	0	Cloudy	
Yankton, Dakota	28.69	728.7	30.03	762.8	29.5	— 1.4	73	SW	11	4.9		0	0			0	0	Clear	
Yuma, Arizona	29.80	756.9	29.97	761.2	55	12.8	68	W	1	0.4		0	0			0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.30	718.8	29.68	753.9	55	12.8	80											Cloudy	J. B. Gordon.
Havana, Cuba, W. I	30.11	764.8	30.16	766.1	66	18.9	64	E	1.2	0.5		4k	0	E		0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	29.99	761.7	30.07	763.8	76	24.4		NE	23	10.3						0	0	Partly clo'dy	W. H W. Jones.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	79	26.1	87	E			2	8c	5k	E		0	0	Fair	C. J. Hering
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.67	753.6	29.73	755.1	—29.0	—33.9		NW	19	8.5			10s		NW	0.13	3.3	Snowing	J. Fortescue & W. Wood.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520.m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.: Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City. 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.: Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,060 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.13	765.3	52	11.1	48.5	9.2	82	NW	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.30	769.6	56	13.3	56	13.3	87	SE	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.91	759.7	60	15.6	11	11.7	80	WSW	3	1.3	.....	.....	5?	.....	.....	.....	.....	.....	.....	Overcast?....	
Naval Hospital, Yokohama, Japan.....*	29.84‡	757.9‡	.....	.....	40	4.4	95	N	.....	.....	4	.....	10n	.....	N	0.57	14.5	.....	.....	Light rain...	
Adams. Panama	29.96	761.0	80	26.7	76	24.4	??	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Alaska, Guaymas, Mexico....	30.07	763.8	69	20.6	61	16.1	77	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky.....	
Alliance, Villafranca, France.....	29.38‡	746.2‡	.....	.....	56	13.3	46	WSW	.....	.....	0-1	.....	10	.....	Calm	.....	.....	Light	.....	Threatening	
Ashuelot, Hong-Kong, China.	29.93‡	760.2‡	.....	.....	63	17.2	62	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Canonicus, New Orleans, La.....	30.12	765.0	45	7.2	59	15.0	94	E	.....	.....	3	.....	2	.....	E	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.....	30.01	762.2	15	— 9.4	14	—10.0	100	NW	12	5.4	.....	.....	5	.....	.....	.....	.....	.....	.....	Hazy	
Constitution, Lisbon, Portugal.....	29.82‡	757.4‡	.....	.....	54	12.2	93	W	.....	.....	6	.....	7	.....	W	.....	.....	.....	.....	Squally.....	
Despatch, Constantinople, Turkey	29.66‡	753.4‡	.....	.....	58	14.4	68	SW	.....	.....	2	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.30	769.6	62	16.7	30	— 1.1	78	S	4.8	2.1	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.64‡	752.8‡	.....	.....	58	14.4	82	SW	.....	.....	3-4	.....	10	.....	SW	Blank	Blank	Smooth	.....	D. clouds.....	
Hartford, Montevideo, Uruguay....	30.09	764.3	73	22.8	72	22.2	80	ENE	.....	.....	4	.....	10	.....	.....	0.01	0.3	Smooth	.....	Threatening	
Lackawana, Panama.....*	29.77‡	756.1‡	.....	.....	76	24.4	95	NNW	.....	.....	0-1	.....	5?	.....	.....	0	0	.....	.....	Cloudy ?.....	
Michigan, Erie, Pa.....†	29.91	759.7	.....	.....	25	— 3.9	??	S	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy, Shanghai, China.....*	30.01‡	762.2‡	.....	.....	38	3.3	82	NW	.....	.....	2	.....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*..	29.72‡	754.9‡	.....	.....	36	2.2	100	NNW	.....	.....	3	.....	10	.....	N	Mod'ate	Mod'ate	.....	.....	Raining... ...	
New Hampshire, Port Royal, S. C.....	30.27	768.8	47	8.3	45	7.2	76	WSW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....†	30.02	762.5	.....	.....	70	21.1	90	SSE	.....	.....	1	.....	5	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.94	760.5	32	0.0	24	— 4.4	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	25	— 3.9	75	SW	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 36° 00', W. 96° 20'.....	30.14‡	765.5‡	.....	.....	66	18.9	74	SSW	3	1.3	.....	.....	5	.....	SSW	0.5	13.	Long	SSW	Fair.....	
Powhatan, N. 20°, W. 74°.....	30.16	766.1	74	23.3	73	22.8	71	NNE	.....	.....	5	.....	5	.....	NE	0.1	3.	Mod'ate	NE	Squally.....	
Quinnebaug, Villafranca, France.....	29.38‡	746.2‡	.....	.....	54	12.2	61	SW	.....	.....	2	.....	10	....	S;W	.....	.....	Ground	S	Cloudy.....	
Ranger. Kobe, Japan.....*	29.96‡	761.0‡	.....	.....	62	16.7	77	NE	.....	.....	3	.....	10	.. ..	Calm	.....	.....	Smooth	.....	Raining.....	
Richmond, Villefranca, France.....	29.41‡	747.0‡	.....	.....	55	12.8	56	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.94	760.5	67	19.4	65	18.3	94	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	30.12‡	765.0‡	.....	.....	27	— 2.8	.....	SSE	.....	.....	2	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.04	763.0	47	8.3	20	— 6.7	.....	W	5	2.2	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Supply, N. 22° 02', W. 48° 47'.	30.11‡	764.8‡	.....	....	76	24.4	82	S	.....	.....	4	.....	2	.....	S	.....	.....	Smooth	.....	Clear	
Trenton. Villafranca, France.....	29.37‡	746.0‡	.....	.....	58	14.4	64	SW	.....	.....	1	.....	10	.....	Calm	0	0	Mod'ate	S	Cloudy.....	
Tuscarora, Acapulco, Mexico.....	29.99‡	761.7‡	.....	....	78	25.6	73	ESE	.....	.....	0-1	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	29.95‡	760.7‡	.....	.....	13	—10.6	81	NW	12	5.4	.....	.....	8	.....	.....	.....	.....	.....	.....	Hazy.....	
Wyoming, Smyrna, Turkey.....	29.81‡	757.2‡	.....	.....	63	17.2	78	SW	.....	.....	1-2	.....	5	.....	SW	.....	.....	Smooth	SW	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

†Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima, N. 8° 38′, W. 79° 34′†.		29.94‡	760.5‡	78	25.6	95	N			3		5		N				D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada, N. 31° 22′, W. 119° 15′.†*.		30.26‡	768.8‡	60	15.6	88	NW			5		10		Calm	0	Long	NW	Gloomy	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 29° 31′, W. 142° 58′		30.15‡	765.8‡				SSE			3		n		SE		Long; smooth	NW	Showery	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 28° 49′, E. 126° 34′.*.		29.85‡	758.2‡	54	12.2	93	N			7		ks		NE		Rough	N	Squally	J. A. Thompson, 2d Off'r.
S. S. Gaelic, N. 38° 17′, W. 141° 34′.†.		29.97‡	761.2‡	57	13.9	94	SSW			6		k		SW	Blank	High	SW	D. clouds	Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 48° 25′, W. 6° 48′.		29.38‡	746.2‡	40	9.4	93	SW			8		5		W		High	WNW	Clear.	Capt. C. Undütsch.
S. S. Leipzig, N. 38° 46′, W. 72° 22′		30.13‡	765.3‡	25.2	— 3.8		NW			4		8		NW	0	3	NW	Covered	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.				21	— 6.1		W			3		8		W	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool †.		29 38‡	745.0‡	37	2.8		NE			2		5		NE	0			Fair	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.																			
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian, N. 38° 00', W. 71° 52'		30.06‡	763.5‡	33	0.6		NNW			6		1ck		NNW		Mod'ate	NNW	Blue sky	Capt. W. Richardson.
NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.																			

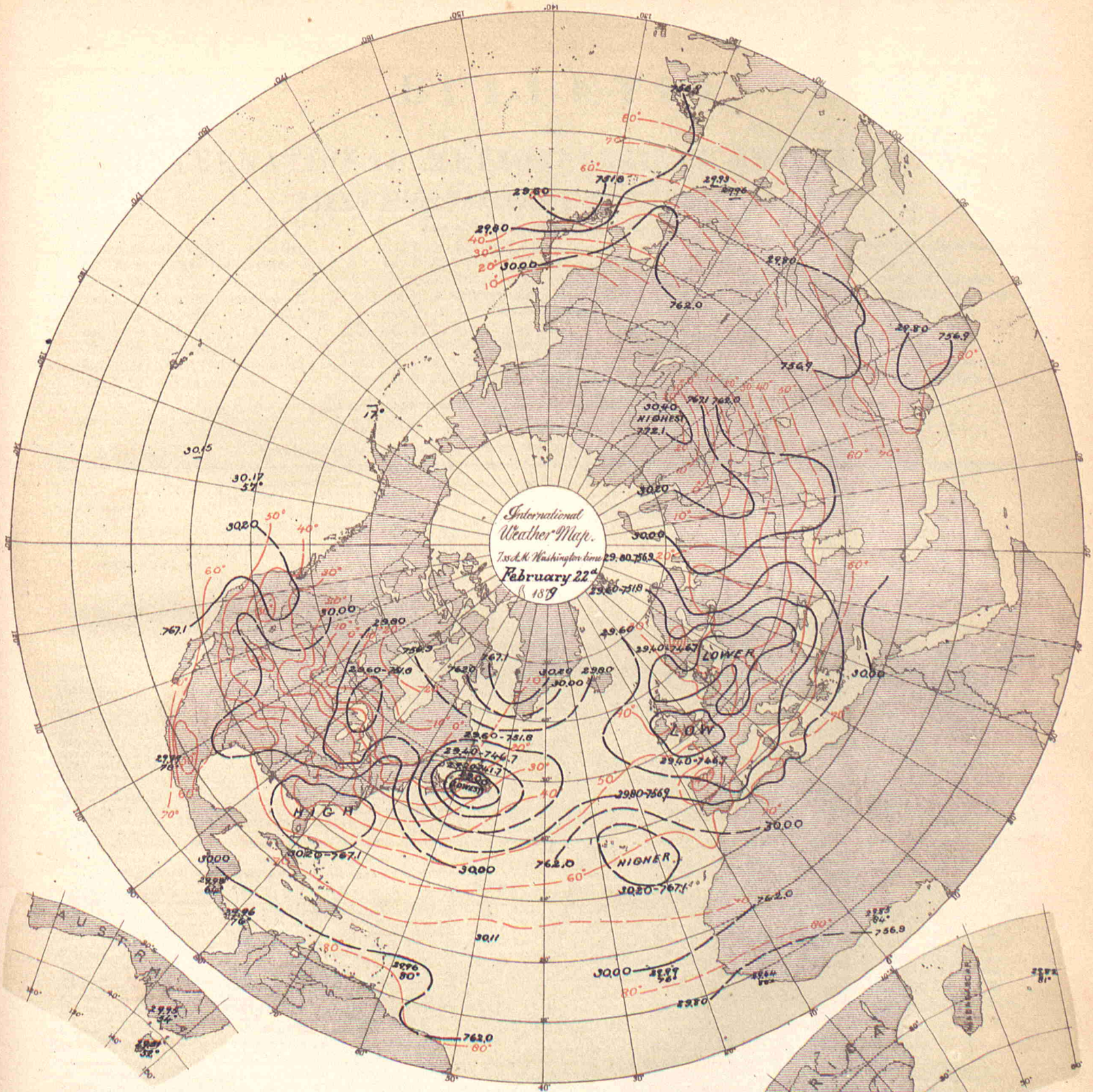
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 23, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.03	762.5	59.0	15.3	.....	NE	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	
Nemours	.....	.....	29.73	755.2	58.6	14.8	89	WNW	.....	.....	1	.....	8	.....	.....	0.118	3.0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.63	752.5	55.0	12.8	57	W	.....	.....	4	.....	0	.....	.....	0.890	22.6	Clear	Tourlliere.
La Calle	.....	.....	29.63	752.5	59.2	15.1	73	WNW	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	29.65	753.1	64.9	18.3	55	N	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	29.67	753.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.68	753.9	47.7	8.7	57	W	.....	.....	4	.....	10	.....	.....	0.059	1.5	Raining	Herbin.
Tebessa	.....	.....	29.66	753.3	64.4	18.0	37	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	29.60	751.8	64.2	17.9	94	NW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	29.61	752.1	56.8	13.8	36	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.58	751.2	66.0	18.9	27	NW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	28.52	724.4	29.06	738.2	46.2	7.9	98	WSW	.....	.....	7	.....	7	.....	.....	0.146	3.7	Stormy	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.63	727.1	29.40	746.8	39.9	4.4	74	E	.....	.....	2	.....	10	.....	.....	0.035	0.9	.....	Dr. Wierzbiski
Eperies	28.56	725.3	29.44	747.7	43.3	6.3	67	S	.....	.....	3	.....	8	.....	.....	0.020	0.50	.....	Julius Mikolik.
Gratz	27.86	707.7	29.12	739.7	37.2	2.9	88	NE	.....	.....	4	.....	10	.....	.....	0.394	10.0	.....	Andreas Rospini.
Hermannstadt	28.11	714.0	29.53	750.1	49.8	9.9	64	S	.....	.....	5	.....	0	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	27.59	700.8	28.93	734.9	35.2	1.8	90	ENE	.....	.....	7	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.04	727.4	29.64	752.8	40.1	4.5	71	SW	.....	.....	1	.....	6	.....	.....	0.169	4.3	.....	Dr. T. Stanecki.
Pola	28.97	735.9	29.08	738.7	55.0	12.8	52	SSW	.....	.....	8	.....	3	.....	.....	0.339	8.6	Thunder-storms.	I.R.Hydrographic Office.
Szathmar	29.03	737.3	29.49	749.1	49.4	8.0	52	SE	.....	.....	6	.....	10	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	28.95	735.4	29.23	742.4	52.9	11.0	64	S	.....	.....	5	.....	0	.....	.....	0.020	0.50	.....	Karl Stancel.
Trieste	28.99	736.3	29.09	738.9	53.4	11.9	63	SW	.....	.....	2	.....	7	.....	.....	0.693	17.6	Hail-storm	P. Busin.
Vienna	28.89	721.1	29.11	739.4	37.0	2.8	96	ESE	.....	.....	3	.....	10	.....	.....	0.362	9.2	Raining	I. R. Central Met. Ob'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.30	744.1	29.50	749.4	29.8	— 1.2	97	NNE	.....	.....	1	.....	10	.....	NNE	0.018	0.45	Snowing	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	29.32	745.5	29.48	748.7	32.9	0.5	83	ENE	.....	.....	2	.....	10	.....	.....	0	0	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m., Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.56	750.8	29.67	753.6	36.0	2.2	.....	N	12	5.4	.....	.....	9	.....	.....	0.105	2.67	Overcast	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William McNeil.
Armagh, Observatory	.....	.....	29.76	755.9	39.5	4.2	.....	N	17	7.6	.....	.....	0	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.58	751.3	36.4	2.4	.....	NW	23	10.3	.....	.....	6	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton, (Sharples)	.....	.....	29.60	749.3	34.5	1.4	.....	NNW	42	18.8	.....	.....	10	.....	.....	.....	.....	Squally	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.96	761.0	81	27.2	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.62	749.8	34.5	1.1	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	H. Todd.
Cardington	.....	.....	29.53	750.0	32.4	0.2	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	John McLaren.
Chatham, School M. E.	29.39	746.5	30.52	749.8	34.3	1.3	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Corpl. Daly, R. E.
Dartmoor	28.10	713.7	29.61	752.1	33.0	0.6	.....	N	.....	.....	6	.....	7	.....	.....	.....	.....	Hailing	Alexander Watt.
Donaghadee	29.69	754.1	29.73	755.1	40	4.4	.....	N	.....	.....	6	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.50	749.3	29.52	749.6	36	2.2	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.45	748.0	29.69	754.1	41.6	5.3	.....	NNW	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.68	703.1	30.00	762.0	62.8	17.1	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.59	751.6	29.82	757.4	88	31.1	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.78	756.4	41	5.0	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.68	753.9	29.73	755.1	48.3	9.1	.....	W	.....	.....	6	.....	9	.....	.....	.....	.....	Snowing	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.50	749.3	29.70	754.4	38.0	3.3	.....	NNW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.51	749.5	29.51	749.5	34	1.1	.....	SSE	.....	.....	2	.....	4	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.35	745.5	29.53	750.0	32.1	0.1	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	The Staff, for G. B. Airy
Guernsey	29.39	746.5	29.62	752.3	39	3.9	.....	NNW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S
Helston	29.34	745.2	29.46	748.3	50	10.0	.....	E	.....	.....	2	3c	.....	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.60	751.8	29.66	753.4	40	4.4	.....	N	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.32	744.7	29.62	752.3	38.7	3.7	.....	N	.....	.....	3	.....	1	.....	.....	Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	29.50	749.3	29.54	750.3	31.3	— 0.4	.....	W	7	3.1	.....	.....	10	.....	.....	.....	.....	Snowing	The Meteorological Of.
Leicester, Museum	29.24	742.7	29.50	749.3	31.7	— 0.2	.....	SW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.66	753.4	29.74	755.4	63	17.2	.....	NE	.....	.....	2	.....	3k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.61	752.1	29.70	754.4	37	2.8	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.10	764.5	72.2	22.3	.....	SE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.33	745.0	29.52	749.8	31.2	— 0.4	.....	NNW	.....	.....	3	.....	10n	.....	NNW	0.143	3.64	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.00	736.6	29.54	750.3	35.0	1.7	.....	WNW	.....	.....	4	.....	3	.....	.....	.....	.....	Overcast	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.54	750.3	33	0.6	.....	WSW	.....	.....	1	.....	8	.....	.....	Blank	Blank	Threatening	H. E. Bellamy.
Plymouth	29.54	750.3	29.62	752.3	43.8	6.6	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.78	756.4	29.83	757.7	42	5.6	.....	NNE	.....	.....	5	.....	5	.....	.....	.....	.....	½ clouded	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.72	754.9	38.6	3.6	.....	N	23	10.3	.....	.....	10	.....	.....	.....	.....	Snowing	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.78	756.4	57.0	13.9	.....	SSW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	29.09	738.9	29.38	746.2	34.3	1.3	.....	NE	.....	.....	5	.....	10	.....	.....	0.22	5.6	Snowing	W. F. Cooper.
Silloth Rectory	29.60	751.8	29.63	752.6	36.2	2.3	73	NE	.....	.....	7	.....	7	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	29.13	739.9	29.53	750.0	35.7	2.1	.....	NNW	.....	.....	5	.....	10	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Strafield Turgiss	29.32	744.7	29.55	750.6	31.4	— 0.3	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	C. H. Griffith, F. R. S.
Thurso	29.66	753.4	29.73	755.1	38	3.3	.....	NNW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.67	753.6	44	6.7	.....	N	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	29.90	759.4	29.93	760.2	43.5	6.4	.....	N	27	12.1	.....	.....	6	.....	.....	Blank	Blank	D. clouds	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	30.02	762.5	30.06	763.5	71	21.7	48	S	7	3.1	.....	0	0	.....	.....	0	0	.....	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.98	761.5	50.0	10.0	76	W	.....	.....	3	.....	0	.....	.....	0.01	0.3	Star-light	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.70	754.4	38.2	3.4	.....	NE	.....	.....	2	.....	10s	.....	.....	Snow-showers.			Andrew Gibb.
Mauritius, Observatory	29.59	751.6	29.77	756.2	78.8	26.0	80	ESE	14.0	6.3	.....	1	4	.....	E	0.02	0.5	Fine	C. Meldrum.
Melbourne, Observatory	30.14	765.5	30.23	767.8	56.4	13.6	78	SW	11	4.9	.....	.....	10	.....	.....	0.01	0.3	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.89	759.2	41	5.0	.....	NE	.....	.....	7	5	8	NE	.....	0.1	3.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.62	752.3	38	3.3	.....	NE	.....	.....	6	3	4	NE	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Brig Alliance, N. 31° 00′, W. 25° 13′	.....	.....	30.23‡	767.8‡	66.9	19.4	.....	N	.....	.....	3	.....	8	.....	.....	.....	.....	Showery	Capt. W. Scott.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. J. Brown.
Ship "British Commodore"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. W. Thorne.
——City of Agra, S. 20° 27′, W. 20° 44′	.....	.....	30.04‡	763.0‡	75	23.9	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Capt. Thos. Young.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
——Denbighshire, S. 44° 12′, W. 34° 20′	.....	.....	29.78‡	756.4‡	58	14.4	.....	SSE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	Capt. H. Murdoch.
Barque Mertole, N. 36° 22′, W. 8° 40′	.....	.....	29.73‡	755.1‡	49	9.4	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	Capt. E. W. Turner.
S. S. Nizam, N. 16° 18′ W. 61° 02′	.....	.....	29 87‡	758.7‡	75.5	24.2	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. Barlow.
——Strathleven, N. 16° 44′, E. 94° 45′	.....	.....	29.78‡	756.4‡	75	23.9	.....	SW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Capt. C. W. Pearson.
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. McMontry.

Note.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.23	666.2	29.95	760.7	64.0	17.8	82	SE	.....	.....	2	4c	.....	.....	.....	Inap	Inap.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.62	752.3	29.67	753.5	25.3	— 3.7	80	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
Fanöe	29.65	753.1	29.67	753.6	30.7	— 0.7	73	NW	.....	.....	2	.....	1	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.44	747.7	29.48	748.8	23.5	— 4.7	98	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	30.01	762.2	30.04	763.1	35.4	1.9	75	NNE	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Vestervig	29.45	748.1	29.62	752.4	28.0	— 2.2	87	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.03	737.3	29.58	751.3	36.0	2.2	89	NE	.....	.....	2	.....	5	N	NE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.40	746.7	29.51	749.6	37.8	3.2	74	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	29.27	743.4	29.35	745.4	40.9	5.3	57	N	.....	.....	1	.....	5	.....	NW	0	0.059	Cloudy	M. Giraud, Director.
Bar-sur-Seine	28.87	733.4	29.45	748.1	37.0	2.8	78	NE	.....	.....	1	.....	8kn	.....	.....	0	0.024	Very cloudy	C. Saillard, Director.
Beauvais, Normal School	29.25	742.9	29.54	750.3	35.2	1.8	62	N	.....	.....	3	.....	5	.....	N	0	0	Cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.49	723.7	29.37	746.9	34.7	1.5	91	S	.....	.....	2	.....	10	.....	SW	0.177	4.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.53	724.7	29.42	747.2	34.3	1.3	78	NW	.....	.....	2	.....	kn	NW	NW	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.10	739.0	29.70	754.4	35.2	1.8	89	NNW	.....	.....	1	.....	10	NNW	NNW	0.406	10.3	Snowing	A. Waquet, Director.
Brest, Naval Observatory	29.42	747.3	29.67	753.5	46.4	8.0	59	N	.....	.....	2	.....	5	.....	N	0.059	1.50	.....	M.de Rermaree, Director
Carcassonne, Normal School	29.05	737.8	29.47	748.4	41.4	5.2	75	W	.....	.....	1	.....	10	W	W	0.28	7.	Covered	September, Director.
Caen, Normal School	29.60	749.2	29.57	751.1	39.0	3.9	67	NW	.....	.....	2	.....	5	.....	S	0	0	Cloudy	M. Lair, Director.
Chartres, Normal School	28.97	735.9	29.56	750.7	34.5	1.4	93	NNW	.....	.....	3	.....	8	.....	SSE	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.14	740.1	29.47	748.4	32.7	0.4	96	W	.....	.....	3	.....	10	.....	.....	0.004	0.1	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.01	711.4	29.37	746.1	40.5	4.7	56	NW	.....	.....	1	.....	10	.....	NW	.....	.....	Sprinkling	Alluard, Director.
Commercy, Normal School	28.54	724.8	29.43	747.5	34.9	1.6	76	NW	.....	.....	1	.....	5kn	.....	NW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.18	715.7	29.32	744.7	42.8	6.0	53	NW	.....	.....	6	.....	5	.....	NW	0.79	20.	½ covered	M. Kina, Director.
Grenoble, Normal School	28.60	726.3	29.38	746.3	35.6	2	81	NW	.....	.....	4	.....	10n	.....	N	0.020	0.50	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.37	745.9	29.59	751.5	40.6	4.8	97	N	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.26	743.2	29.57	751.1	41.7	5.4	87	N	.....	.....	2	.....	2	.....	NE	0.130	3.3	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.45	722.6	29.37	746.1	34.7	1.5	78	NE	.....	.....	2	.....	2n	.....	NE	0.020	0.50	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.58	751.2	29.68	753.8	41.4	5.2	65	N	.....	.....	4	.....	.....	NE	NW	0.079	2.0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galxin, Director.
Mirecourt, Normal School	28.30	718.9	29.37	745.9	34.5	1.4	76	SE	.....	.....	3	.....	kn	.....	NW	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.14	740.1	29.34	745.2	49.6	9.8	79	NW	.....	.....	3	.....	2	.....	W	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.29	718.6	29.36	745.8	42.1	5.6	51	N	.....	.....	3	.....	n	N	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.43	620.6	.....	.....	23.5	— 4.7	100	NNW	.....	.....	2	.....	.....	.....	.....	0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.50	749.2	29.53	750.0	45.0	7.2	83	NNE	.....	.....	1	.....	5	NNE	NNE	0	0	½ covered	Lt. Decante, Director.
Rouen, Normal School	29.46	748.3	29.54	750.4	38.3	3.5	53	ENE	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.56	750.9	29.60	751.7	40.3	4.6	68	N	.....	.....	3	.....	5	N	NNW	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.35	745.4	29.51	749.6	34.0	1.1	72	N	.....	.....	2	.....	.....	.....	N	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.54	724.9	29.63	752.6	44.6	7	71	W	.....	.....	2	.....	5	SW	W	0	0	Cloudy	T. Huguet, Director.
Versailles Observatory	29.02	737.0	29.51	749.5	34.2	1.2	.....	N	.....	.....	3	.....	5	.....	.....	0	0	Fair	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.75	730.3	29.48	748.7	39.7	4.3	93	NNE	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.2	29.96	760.9	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.	.....	L'Abbé Marchési.
Lyons Obs'y, (Park Station)	.....	.....	29.38	746.3	39.4	4.1	61	N	.....	.....	3	.....	9	.....	.....	Inap.	Inap.	Very cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.20	614.7	29.52	749.7	32.9	0.5	59	SW	.....	.....	3	.....	5	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.10	739.0	50.0	10.0	48	W	.....	.....	4	.....	5	.....	.....	1.555	39.5	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.23	742.4	.....	.....	33.3	0.7	66	N	.....	.....	4	.....	9	.....	N	0	0	.....	Marié Davy, Director.
Perpignan	29.32	744.6	29.42	747.3	45.0	7.2	68	NE	22.4	10.0	.....	.....	6	.....	W	0.417	10.6	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.86	555.2	.....	.....	15.4	— 9.2	.....	NNW	.....	.....	4	.....	10	.....	.....	1.791	45.5	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	28.78	731.1	29.49	749.1	38.8	3.8	95	WNW	.....	.....	4	.....	6	.....	.....	0.098	2.5	Rainy	M. Mercadier Juller.
Tours	29.18	741.1	29.37	746.1	40.3	4.6	54	NNE	.....	.....	1	.....	5	.....	N	0.091	2.3	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.02	762.4	30.04	763.0	45.3	7.4	88	ESE	11.0	4.9	.....	.....	10	.....	.....	0	0	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:58 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.3 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.39	721.0	29.20	741.8	26.6	— 3.0	83	NW			6		9	W				Snowing	Prof. Dr. Hoh.
Berlin	29.32	744.6	29.49	749.1	31.1	— 0.5	76	W			1		9			0	0		Prof. Arndt.
Breslau	28.85	732.8	29.37	746.0	35.6	0.9	98	ENE			4		10			0.034	0.88	Raining	Royal University Obs'y
Carlsruhe	28.91	734.3	29.34	745.3	28.9	— 1.7	80	N			1		10	NE		0	0		Albert Senz.
Cassel	28.89	733.8	29.49	749.0	30.9	— 0.6	63	NE			4		5	ENE		0	0		Dr. H. Möhl.
Crefeld	29.29	744.0	29.45	748.0	33.1	0.6	67	NE			4		3			0	0		Director Lose.
Emden					30.0	— 1.1	89	E?			0?		0			0	0		Prof. Prestel.
Frankfort on the Main	29.02	737.1	29.39	746.4	30.4	— 0.9		NNE			4		10			0.008	0.2		Physical Society.
Friedrichshafen	27.79	705.8	29.14	740.2	30.9	— 0.6	92	N			5		10	N		0.465	11.8		M. Wilhelm.
Hamburg	29.55	750.6	29.63	752.5	28.0	— 2.2	79	NE			1		0			Inap.	Inap.	Very pleasant	Captain F. Hegemann.
Kiel	29.63	752.6	29.65	753.0	27.3	— 2.6	89	NNE			2		8			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.61	752.1	29.70	754.3	33.4	0.8	81	NE			3		2			0	0		Prof. E. Luther.
Köslin			29.63	752.7	28.4	— 2.0		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.00	736.7	29.44	747.8	26.6	— 3.0	91	NE			5		10			0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.66	753.4	29.71	754.6	32.9	0.5	90	Calm			0		1ks						Skalweit.
Neufahrwasser	29.65	753.1	29.67	753.5	34.0	1.1	79	NE			1		8			0.067	1.7		A. Lothes.
Posen	29.24	742.7	29.54	750.3	31.8	— 0.1	96	N			6		10			0.028	0.7	Snowing	Dr. Magener.
Strassburg (in Alsace)	28.80	731.4	29.36	745.8	30.7	— 0.7	71	NE			2		10	NNE		0.010	0.25	Light snow.	Imp. University Observatory.
Stuttgart	28.34	719.7	29.26	743.3	27.5	— 2.5	85	E			1		10			0.185	4.7	Snowing	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.68	703.1	29.24	742.6	27.5	— 2.5	98	N	11	5			10			0.276	7.0	Snow & fog	Dr. Van Bebber.
Wustrow, Naval School	29.61	752.0	29.63	752.6	30.0	— 1.1	88	NE			1		10ns			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.49	749.1	29.88	759.0	63.7	17.6		S			4.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.86	758.5	29.91	759.8	75.4	24.1	36	WNW	19	8.5			0			0	0	Blue sky	
Deesa	29.32	744.6	29.78	756.5	84.2	29.0	23	SW	7.7	3.4			0			0	0	Blue sky	
Bombay	29.77	756.2	29.81	757.2	78.8	26.0	61	W	9	4.0			0			0	0	Blue sky	
Lahore	29.09	738.8	29.84	758.0	72.6	22.6	31	Calm	1.4	0.6						0	0	Blue sky	
Belgaum	27.26	692.4	29.77	756.1	80.3	26.8	54	WSW	14	6.3			1			0	0	D. clouds	
Roorkee	28.92	734.5	29.83	757.6	72.6	22.7	43	S	1	0.4						0	0	Blue sky	
Agra	29.27	743.4	29.85	758.2	68.7	20.4	41	W								0	0		
Nagpur	28.71	729.3	29.74	755.5	85.1	29.5	33	Calm	2.2	1.0			9		E			Thunder-storm	
Lucknow	29.46	748.2	29.84	757.8	71.5	21.9	64	NW	0.7	0.3						0	0	Blue sky	
Allahabad	29.63	750.0	29.85	758.1	75.5	24.2	40	Calm	1.9	0.8			0			0	0	Blue sky	
Patna	29.67	753.5	29.85	758.2	78.3	25.7	54	WSW	1.2	0.5			2	WSW	WSW	0	0		
Hazaribagh	27.81	706.4	29.84	757.8	74.6	23.7	33	WNW	5.6	2.5			0			0	0	Blue sky	
Cuttack	29.78	756.3	29.86	758.4	77.0	25.0	68	S	1.2	0.5			8			0.07	1.8	D. clouds	
Calcutta (Alipore)	29.80	757.0	29.82	757.5	78.5	25.8	58	NW	2.0	0.9			8	WSW		0	0	D. clouds	
Goalpara	29.43	747.5	29.82	757.5	76.0	24.4	34	NW	2.0	0.9			0			0	0	Blue sky	
Chittagong	29.77	756.2	29.86	758.5	77.5	25.3	66	Calm	2.5	1.1			1			0	0	Misty	
Sibsagar	29.51	749.6	29.85	758.3	70.0	21.1	69	NE	0.6	0.3			8	W	W	0	0	D. clouds	
Jubbulpore	28.42	721.8	29.78	756.5	78.9	26.1	32	NNE	1.6	0.7			1			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.5 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.63	727.3	29.05	737.8	49.1	9.5	65	SW	11.2	5.0	.....	.....	10	.....	.....	0.815	20.7	.....	Prof. Giovanni Clodig.
Padua	28.84	732.6	28.95	735.4	50.9	10.5	57	S	23.7	10.6	.....	.....	10	SW	.....	0.516	13.1	.....	Prof. Dott. Lorenzoni
Milan	28.43	722.2	28.95	735.3	35.8	2.1	94	W	.....	.....	2	.....	10	E	.....	0.350	8.9	.....	Prof. Schiaparelli.
Moncalieri	28.06	712.8	28.88	736.2	41.7	5.4	78	SSE	4.3	1.9	.....	.....	8	SW	.....	0.315	8.0	.....	Prof. P. F. Denza.
Mondovi	27.08	687.8	29.02	737.1	41.0	5.0	61	SSE	.....	.....	2	.....	6	.....	.....	1.252	31.8	.....	Prof. D. C. Bruno.
Genoa	28.85	732.7	29.04	737.6	40.5	4.7	54	NE	2.5	1.1	.....	.....	10	SW	.....	1.386	35.2	.....	Prof. G. M. Garibaldi.
Florence	28.92	734.5	29.17	741.0	51.8	11.0	44	SW	.....	.....	8	.....	10	.....	.....	0.295	7.5	.....	Cav. F Meucci.
Leghorn	29.00	736.6	29.09	738.8	50.5	10.3	65	W	38.5	17.2	.....	.....	10	S	.....	0.039	1.0	.....	Prof. P. Monte.
Pesaro	29.10	739.0	29.15	740.3	55.2	12.9	50	S	24.8	11.1	.....	.....	9	S	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.24	742.7	29.42	747.2	54.5	12.5	58	SSW	32.2	14.4	.....	.....	9	.....	.....	0.945	24.0	.....	Prof. P. S. Ferrari.
Lecce	29.34	745.3	29.60	751.8	61.2	16.2	77	S	24.8	11.1	.....	.....	7	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.34	745.1	29.53	750.0	56.1	13.4	50	W	.....	.....	4	.....	4	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.76	730.4	29.65	753.0	62.6	17.0	78	SW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.38	746.3	29.64	752.8	64.8	18.2	37	WSW	3.8	1.7	.....	.....	6	W	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.52	749.8	29.60	751.7	67.1	19.5	59	SSE	1.3	0.6	.....	.....	2	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.02	737.0	29.57	751.1	55.4	13.0	66	SW	12.5	5.6	.....	.....	10	.....	.....	0.091	2.3	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.09	764.3	30.11	764.8	39.1	3.9	76	N	1.4	0.6	.....	.....	3s	.....	.....	0	0	Fair	K. Sasaki.
Nagasaki, I. M. Obs'y	29.91	759.7	30.12	765.0	40.9	4.9	85	SE	1.0	0.4	.....	.....	0	.....	.....	0.020	0.51	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	29.59	751.6	29.66	753.3	43.3	6.3	51	NW	16.1	7.2	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	6	.....	.....	0	0	⅛ clouded	P. Ceballos.
Guadalajara	25.10	637.5	30.23	767.8	41.9	5.5	48	Calm	.....	.....	1	2c	0	.....	.....	0	0	Fog on horizon.	Prof. L. Perez.
Leon	24.44	621.0	30.12	765.0	50.9	10.5	64	NW	.....	.....	.....	0	6ks	.....	.....	0.008	0.2	Foggy	Prof. M. Leal
Mexico, Central Obs'y	23.05	585.5	30.15	765 8	48.2	9.0	65	Calm	0	0	.....	0	1s	.....	.....	0	0	Bright	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	43.3	6.3	74	Calm	.....	.....	0	0	1s	.....	.....	0	0	Light fog	M. V. de Leon, M. E.
Tlacotalpam	29.88	758.8	29.89	759.1	67.3	19.6	90	N	.....	.....	2	1	0	SW	.....	0	0	Misty	M. M. Cházaro.
San Luis Potosi	24.14	613.1	30.18	766.7	46.0	7.8	60	NNW	.....	.....	1	0	3	.....	S	0	0	⅛ clouded	G. Barroeta, M. D.
Vera-Cruz	29.90	759.5	29.93	760.2	71.6	22.0	91	NNW	7.8	3.5	.....	2c	4ks	S	N	0	0	.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.39	594.0	30.14	765.5	45.3	7.4	78	SSE	0.4	0.2	.....	4k	.....	S	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.3	30.06	763.6	72.7	22.6	66	NE	.....	.....	1	0	7	.....	SW	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	29.82	757.5	29.96	760.9	68.5	20.3	.....	Calm	.....	.....	0	1c	1c	.....	.....	0	0	Clear	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,136 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.52	749.9	29.52	749.9	33.1	0.6	.....	NNE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.54	750.2	29.59	751.6	30.0	— 1.1	.....	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.54	750.4	29.54	750.4	30.4	— 0.9	.....	ENE	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
Hellevoetsluis	29.50	749.2	29.50	749.2	33.1	0.6	98	Calm	.....	.....	2	.....	0	.....	.....	0	0	Clear	H. v. d. Brink.
Utrecht	29.47	748.5	29.52	749.7	34.2	1.2	74	NE	.....	.....		.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.54	750.4	29.60	751.8	32.7	0.4	71	E	2.9	1.3	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.82	757.5	29.86	758.5	34.2	1.2	70	SSE	18	8	.....	.....	7	.....	.....	0	0	.....	
Christiania	29.54	750.3	29.69	754.2	29.3	— 1.5	80	NE	11	5	.....	.....	10	.....	.....	0.016	0.4	Snowing.	
Tromsö	29.89	759.2	29.93	760.0	29.1	— 1.6	80	SW	18	8	.....	.....	2	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.13	765.2	30.32	770.1	55.8	13.2	82	SSE	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.78	729.7	29.79	756.6	45.5	7.5	75	WNW	1.8	0.8	.....	.....	8	WNW	.....	0.169	4.3	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.00	762.1	30.09	764.8	64.2	17.9	45	SE	8.1	3.6	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.43	747.4	29.80	756.8	46.9	8.3	65	N	11.2	5.0	.....	.....	8	.....	.....	0.114	2.9	.....	The Staff.
Ponta Delgada, (Azores)	30.26	768.6	30.33	770.4	57.9	14.4	60	NE	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.84	757.9	84.2	29.0	.....	SW	.....	.....	1	.....	2	.....	SW	1	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, Porto Praya, Cape Verd Islands	.....	.....	30.00	761.9	75.4	24.1	.....	Var.	.....	.....	5	.....	3	.....	NE	3	NE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.71	754.6	85.1	29.5	.....	WNW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro da Costa, Com'd't.
Tejo, Macao, China	.....	.....	29.92	760.0	65.3	18.5	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.13	740.0	29.56	750.9	39.6	4.2	76	ESE	11	5	.....	.....	9ck;s	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.32	744.6	29.74	755.5	36.7	2.6	79	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.66	753.4	29.92	759.9	27.1	— 2.7	83	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.00	762.1	30.02	762.5	33.1	0.6	85	SE	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.06	738.0	29.72	754.8	33 3	0.7	100	NNE	4	2	.....	.....	10ks;s	.....	.....	.....	.....	Dense fog	Physical Cabinet.
Nikolaiev	29.74	755.4	29.81	757.2	43.0	6.1	69	WNW	9	4	.....	.....	2ck	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.88	759.0	29.90	759.5	51.8	11.0	65	SSW	9	4	.....	.....	1	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.47	748.6	30.06	763.4	24.8	— 4.0	91	E	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.54	750.2	29.74	755.4	46.8	8.2	58	SSE	18	8	.....	.....	9	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Archangel	30.23	767.8	30.25	768.3	21.6	— 5.8	87	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Saelliwerstow.
Tiflis	28.54	724.9	29.97	761.2	49.3	9.6	41	NNW	45	20	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.15	765.8	30.07	763.7	34.2	1.2	85	SE	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	29.66	753.3	30.16	766.1	21.9	— 5.6	77	SE	13	6	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.95	760.7	30.24	768.0	21.0	— 6.1	61	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.47	748.4	30.54	775.6	5.2	—14.9	63	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.95	760.7	30.19	766.8	36.9	2.7	62	WNW	11	5	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	29.40	721.4	30.12	765.1	51.4	10.8	52	W	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.26	743.1	29.82	757.7	—13.0	—25.0	65	W	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.91	759.6	30.24	768.0	— 9.9	—23.3	65	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.97	761.3	30.11	764.9	29.8	— 1.2	29	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.04	763.1	30.14	765.6	8.8	—12.9	96	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.32	744.7	29.43	747.5	45.0	7.2	57	WNW	4.7	2.11	.....	.....	9	.....	.....	0.178	4.53	Almost cov'd	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.58	751.4	29.64	752.9	44.2	6.8	81	NW	4.3	1.91	.....	.....	10	.....	.....	0.476	12.1	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.65	676.8	.....	.....	33.8	1.0	94	NW	10.4	4.65	.....	.....	8	.....	.....	0.020	0.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.43	696.6	.....	.....	39.6	4.2	63	W	21.6	9.66	.....	0	9	.....	.....	0.189	4.8	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.53	750.0	29.68	753.9	60.1	15.6	44	NNW	4.7	2.11	.....	.....	3	.....	.....	0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.88	732.2	29.74	755 5	41.4	5.2	86	NW	10.5	4.7	.....	.....	10	.....	.....	0.209	5.3	Snowing	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I	29.99	761.8	30.06	763.5	65.0	18.3	81	ESE	1.3	0.6	.....	0	1sk	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.9	29.89	759.2	80.4	26.9	67	E	4.0	1.8	.....	.....	.....	.....	.....	0	0	Clear	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.67	753.6	29.77	756.2	44.4	6.9	86	NE	2.4	1.1	.....	0	10	.....	NE	0.295	7.5	Rainy	Capt. C. Fujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.99	761.7	30.08	764.0	75.9	24.4	78	NE	13.2	5.88	.....	6k	6kn	NE	NE	0.226	5.75	Cloudy	Leonardo de Tejada, Ch't. Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.10	764.6	30.14	765.6	23.4	— 4.8	.....	Calm	.....	.....	0	.....	5	.....	.....	0	0	.....	
Umea	29.95	760.4	29.99	761.7	25.5	— 3.6	82	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.87	758.6	29.92	760.9	25.5	— 3.6	91	NE	.....	.....	2	.....	10	.....	.....	0.094	2.4	.....	
Stockholm	29.57	751.1	29.75	755.6	32.0	0.0	96	ENE	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	
Wisby	29.62	752.3	29.68	753.8	33.4	0.8	82	E	.....	.....	6	.....	7	.....	.....	0.189	4.8	.....	
Sub-Series.																			
Upsala	29.68	753.9	29.76	755.8	31.1	— 0.5	85	ENE	4.3	1.9	.....	.....	10	.....	.....	0.001	0.02	Snowing..	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.87	707.8	29.34	745.1	36.7	2.6	68	NNE	.....	.....	1	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	27.62	701.5	29.35	745.4	29.1	— 1.6	98	NW	.....	.....	1	.....	10	.....	.....	0.512	13.0	Snowing	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —18.0 mm.; Thermometer, —2.2 cent.; Relative Humidity, 0 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	758.0	60.1	15.6	60	S	11	5.0	.....	.....	2	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.67	753.6	68.2	20.1	.....	S	.....	.....	6	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.93	760.2	30.04	763.1	71 1	21.7	56	SW	.....	.....	2	.....	0	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.33	745.0	29.66	753.4	16	— 8.9	.....	Calm	0	0	.....	.....	10s	.....	W	0.08	2.0	Cloudy	W. R. Bigg.
*Chatham, N B	29.45	748.0	29.52	749.8	10	—12.2	78	SW	3	1.3	.....	.....	10ks	.....	SW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.52	749.8	29.56	750.8	14	—10.0	95	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.40	746.7	29.61	752.1	16.8	— 8.4	57	W	.....	.....	2	.....	10s	.....	.....	0.02	0.5	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	29.40	746.7	29.43	747.6	11	—11.7	80	S	5	2.2	.....	8k	2s	W	W	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.52	749.8	29.58	751.3	14.8	— 9.6	76	SE	1	0.4	.....	4cs	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.19	741.4	30.16	766.1	—20	—28.9	100	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.44	722.4	29.09	754.1	23	— 5.0	.....	SW	.....	.....	1	1cs	0	.....	.....	Inap.	Inap.	Clear	James Grant.
*Halifax, N. S	29.47	748.5	29.61	752.1	23	— 5.0	95	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.24	742.7	29.62	752.3	25.7	— 3.5	94	SW	.....	.....	1	5ck	0	SW	.....	0	0	Fair	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.29	744.0	29.65	753.1	10	—12.2	57	NW	5	2.2	.....	10ks	0	S	.....	0.10	2.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.54	750.3	29.58	751.3	19.9	— 6.7	86	W	8	3.6	.....	.....	6ks	.....	.....	0	0	Fair	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.39	746.5	29.60	751.8	16	— 8.9	49	W	20	8.9	.....	8k	2s	W	.....	0.03	0.8	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	28.86	733.0	29.61	752.1	5	—15.0	70	W	2	0.9	.....	2cs	0	W	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	28.83	732.3	29.03	752.6	13.6	—10.2	88	SE	.....	.....	.....	10k	0	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	28.90	734.0	29.63	752.6	24	— 4.4	87	SW	12	5.4	.....	10ck	0	SW	.....	0.15	3.8	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	28.97	735.8	29.64	752.8	26	— 3.3	85	W	8	3.6	.....	2ck	5ks	SW	W	0.10	2.5	Fair	M. Payne.
*Quebec, Quebec	29.18	741.2	29.52	749.8	11	—11.7	100	NW	.....	.....	3	.....	10n	.....	NW	0.03	0.8	Light snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.09	738.9	29.60	751.8	— 7	—21.7	84	Calm	0	0	.....	10c	0	W	.....	0.04	1.0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.54	750.3	29.59	751.6	23	— 5.0	90	W	.....	.....	1	0	0	.....	.....	Inap.	Inap.	Clear	Dr. Gove.
St. John, N. B	29.41	747.0	29.59	751.6	21	— 6.1	43	SW	6	2.7	.....	0	6ck	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	28.84	732.5	29.60	751.8	17	— 8.3	87	W	20	8.9	.....	.....	10s	.....	.....	0.25	6.3	Heavy snow	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.29	718.6	29.64	752.8	20.0	— 6.7	91	W	5	2.2	.....	.....	10s	.....	.....	0.15	3.8	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.55	750.6	29.59	751.6	18	— 7.8	73	SW	11	4.9	.....	2ck	0	SW	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.22	742.2	29.63	752.6	9	—12.8	80	N	10	4.5	.....	.....	8ks	.....	W	0.030	0.76	Cloudy	Magnetic Observatory.
Windsor, N. S	29.50	749.3	29.60	751.8	20.5	— 6.4	78	W	5	2.2	.....	.....	10n	.....	.....	0	0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	24.0	— 4.4	100	SW	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.46	748.3	29.70	754.4	19	— 7.2	85	S	8	3.6	.....	1c	Sm'e	SW	.....	0.07	1.8	Clear	
Alpena, Michigan	28.98	736.1	29.67	753.6	5	—15.0	75	NW	14	6.3	.....	0	2s	.....	NW	0	0	Clear	
Atlanta, Georgia	28.73	729.7	29.95	760.7	52	11.1	86	SW	6	2.7	.....	.....	10s	.....	Calm	0.53	13.5	Cloudy	
Atlantic City, New Jersey	29.83	757.7	29.84	757.9	32	0.0	89	W	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Augusta, Georgia	29.74	755.4	29.91	759.7	54	12.2	80	SW	4	1.8	.....	.....	10n	.....	SW	0.23	5.8	Light rain	
Baltimore, Maryland	29.80	756.9	29.85	758.2	34	1.1	90	Calm	0	0	.....	5c	5s	SW	Calm	0.05	1.3	Cloudy	
Barnegat, New Jersey	29.78	756.4	29.81	757.2	29	— 1.7	89	W	5	2.2	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Bismarck, Dakota	28.04	712.2	29.90	759.4	1	—17.2	100	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.61	726.7	29.95	760.7	47	8.3	70	N	6	2.7	.....	0	0	.....	.....	0.31	7.9	Clear	
Boise City, Idaho	29.32	744.7	30.28	769.1	39	3.9	81	SE	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Boston, Massachusetts	29.57	751.1	29.73	755.1	25	— 3.9	75	SW	3	1.3	.....	5cs	0	W	.....	Inap.	Inap.	Fair	
Brackettville, Texas	29.00	736.6	30.05	763.3	50	10.0	45	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.99	736.3	30.14	765.5	—13	—25.0	90	NW	7	3.1	.....	10ks	0	.....	W	0	0	Cloudy	
Brownsville, Texas	29.88	758.9	29.95	760.7	66	18.9	95	SW	4	1.8	.....	.....	.....	10s	Calm	0	0	Cloudy	
Buffalo, New York	28.88	733.5	29.60	751.8	25	— 3.9	68	SW	12	5.4	.....	5cs	2s	NW	SW	0.06	1.5	Fair	
Burkes, Arizona	.....	.....	.....	.....	52	11.1	12	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.33	745.0	29.63	752.6	20	— 6.7	70	S	8	3.6	.....	5k	2s	W	W	0	0	Fair	
Cairo, Illinois	29.67	753.6	30.08	764.0	36	2.2	71	Calm	0	0	.....	0	1s	.....	Calm	0.20	5.1	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.26	641.6	30.06	763.5	49	9.4	37	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	36	2.2	53	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.48	698.0	30.05	763.3	38	3.3	71	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.90	759.4	29.91	759.7	47	8.3	100	SW	4	1.8	.....	.....	10n	.....	Calm	0.25	6.3	Light rain	
Cape Henry, Virginia	29.86	758.4	29.88	758.9	40	4.4	82	NE	8	3.6	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Cape Lookout, N. Carolina	29.88	758.9	29.90	759.4	50	10.0	93	SW	26	11.2	.....	.....	10ks	.....	W	0.03	0.8	Cloudy	
Cape May, New Jersey	29.80	756.9	29.83	757.7	36	2.2	80	W	4	1.8	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Castroville, Texas	29.30	744.2	30.02	762.5	50	10.0	52	W	5	2.2	.....	0	0	.....	.....	0.04	1.0	Clear	
Charleston, South Carolina	29.83	757.7	29.89	759.2	52	11.1	79	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cheyenne, Wyoming	23.95	608.3	29.89	759.2	42	5.6	19	NW	26	11.6	.....	5cs	0	W	.....	0	0	Fair	
Chicago, Illinois	29.14	740.1	29.87	758.7	20	— 6.7	70	NW	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Cincinnati, Ohio	29.22	742.2	29.69	759.2	36	2.2	49	W	9	4.0	.....	1k	0	W	.....	0.37	9.4	Clear	
Cleveland, Ohio	28.96	735.6	29.70	754.4	30	— 1.1	78	SW	18	8.0	.....	.....	10ks	.....	SW	0.06	1.5	Cloudy	
Coleman City, Texas	28.32	719.3	30.07	763.8	35	1.7	70	N	9	4.0	.....	0	Haze	.....	.....	0	0	Hazy	
Columbus, Ohio	28.98	736.1	29.84	757.9	32	0.0	69	W	8	3.6	.....	.....	10ks	.....	W	0.06	1.5	Cloudy	
Corpus, Texas	28.21	716.5	29.96	761.0	35	1.7	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.61	752.1	30.09	764.3	44	6.7	60	NW	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	
Davenport, Iowa	29.32	744.7	30.00	762.0	20	— 6.7	56	NW	15	6.7	.....	0	0	.....	.....	0.01	0.3	Clear	
Deadwood, Dakota	25.16	639.0	.....	.....	41	5.0	82	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Decatur, Texas	28.85	732.8	30.02	762.5	55	12.8	83	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.28	743.2	30.07	763.8	41	5.0	74	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.76	628.9	29.98	761.5	48	8.9	36	NW	20	8.9	.....	5c	0	NW	.....	0	0	Fair	
Des Moines, Iowa	29.13	739.9	30.05	763.5	24	— 4.4	74	N	7	3.1	.....	0	2s	.....	N	0	0	Clear	
Detroit, Michigan	28.93	734.8	29.61	752.1	29	— 1.7	78	W	17	7.6	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Dodge City, Kansas	27.36	694.9	29.73	755.1	30	— 1.1	89	W	8	3.6	.....	5cs	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.24	742.7	30.00	762.0	12	—11.1	61	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.21	741.9	29.97	761.2	— 4	—20.0	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.32	744.7	30.08	764.0	51	10.6	40	N	.....	.....	2	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.53	750.0	29.60	751.8	22	— 5.6	72	SW	7	3.1	.....	2c	2ks	SW	SW	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	63	17.2	94	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	26.32	668.5	.....	.....	52	11.1	23	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	28.92	734.6	29.65	753.1	30	— 1.1	89	SW	12	5.4	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Escanaba, Michigan	29.05	737.9	29.77	756.1	1	—17.2	71	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.56	725.4	30.16	766.1	46	7.8	69	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.71	703.8	.....	.....	7	—13.9	77	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Fort Craig, New Mexico	25.68	649.7	29.64	752.8	30	— 1.1	48	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.28	642.1	30.24	768.1	37	2.8	63	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.53	750.0	30.10	764.5	29	— 1.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.85	732.8	30.18	766.6	34	1.1	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.17	690.1	.....	.....	24	— 4.4	74	S	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Fort McKavett, Texas	27.90	708.6	29.58	751.3	42	5.6	42	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.89	733.8	30.05	763.3	34	1.1	79	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	28.04	712.2	.....	.....	— 1	—18.3	100	E	.....	.....	1	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Fredericksburg, Texas	28.37	720.6	29.94	760.5	56	13.3	40	NE	8	3.6	.....	0	0	.....	.....	0.25	6.3	Clear	
Galveston, Texas	29.92	760.0	29.96	761.0	60	15.6	94	W	3	1.3	.....	.....	10ks	.....	W	0.41	10.4	Cloudy	
Graham, Texas	29.04	737.6	30.15	765.8	33	0.6	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.08	738.6	29.76	755.9	18	— 7.8	84	NW	30	13.4	.....	.....	10s	.....	NW	0	0	Threatening	
Indianapolis, Indiana	29.10	739.1	29.90	759.4	32	0.0	59	NW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Indianola, Texas	29.96	761.0	29.99	761.7	61	16.1	82	N	19	8.5	.....	0	2s	.....	N	0	0	Fair	
Jacksboro, Texas	28.87	733.3	30.15	765.8	35	1.7	70	W	2	0.9	.....	2ck	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	29.99	761.7	30.02	762.5	54	12.2	80	S	10	4.5	.....	8k	0	SW	.....	0	0	Cloudy	
Keokuk, Iowa	29.33	745.0	29.97	761.2	32	0.0	74	NW	2	0.9	.....	1k	0	NW	.....	0	0	Clear	
Key West, Florida	30.03	762.8	30.06	763.5	69	20.6	80	SE	10	4.5	.....	5k	0	SE	.....	0	0	Fair	
Kittyhawk North Carolina	29.84	757.9	29.86	758.4	45	7.2	100	SW	8	3.6	.....	.....	10n	.....	W	0.23	5.8	Light rain	
Knoxville, Tennessee	28.94	735.1	29.96	761.0	39.5	4.2	73	N	1	0.4	.....	.....	10s; fg	.....	SW	0.80	20.3	Foggy	
La Crosse, Wisconsin	29.21	741.9	30.02	762.5	8	—13.3	78	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.18	665.0	30.33	770.4	35	1.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.64	752.8	29.98	761.5	56	13.3	51	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.13	739.9	30.00	762.0	32	0.0	79	Calm	0	0	.....	0	1s	.....	.....	0	0	Clear	
Los Angeles, California	29.72	754.9	30.07	763.8	48	8.9	96	NW	2	0.9	.....	.....	.....	Fog	Calm	0	0	Foggy	
Louisville, Kentucky	29.37	746.0	29.94	760.5	38	3.3	54	SW	8	3.6	.....	8ck	0	Calm	.....	0.22	5.6	Fair	
Lynchburg, Virginia	29.17	740.9	29.86	758.4	42	5.6	57	W	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	28.84	732.5	29.90	759.4	9	—12.8	78	W	17	7.6	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	28.96	735.6	29.72	754.9	0	—17.8	70	NW	22	9.8	.....	5c	1s	NW	Calm	0	0	Fair	
Mason, Texas	28.47	723.1	30.28	769.1	43	6.1	59	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.75	755.6	30.08	764.0	38	3.3	80	NW	2	0.9	.....	5cs	0	W	.....	0.07	1.8	Fair	
Milwaukee, Wisconsin	29.06	738.1	29.84	757.9	10	—12.2	60	W	24	10.7	.....	0	1s	.....	Calm	0	0	Clear	
Mobile, Alabama	29.94	760.5	29.99	761.7	55	12.8	96	N	6	2.7	.....	.....	10n	.....	Calm	0.56	14.2	Heavy rain	
Montgomery, Alabama	29.71	754.6	29.94	760.5	55	12.8	93	SW	5	2.2	.....	.....	10n; fg	.....	W; Calm	0.44	11.2	Light rain	
Morgantown, West Virginia	28.72	729.5	29.78	756.4	38	3.3	63	S	8	3.6	.....	0	0	.....	.....	0.40	10.2	Clear	
Mt. Washington, N. H.	23.02	584.7	29.38	746.2	4	—16.6	100	NW	80	35.8	.....	.....	Fog	.....	NW	0.25	6.3	Foggy	
Nashville, Tennessee	29.48	748.8	30.04	763.0	36	2.2	90	Calm	0	0	.....	.....	10ks	.....	SW	0.42	10.7	Cloudy	
New Haven, Connecticut	29.64	752.8	29.76	755.9	23	— 5.0	86	SW	1	0.4	.....	5cs	Haze	SW	Calm	0.04	1.0	Fair	
New London, Connecticut	29.71	754.6	29.76	755.9	23	— 5.0	86	W	2	0.9	.....	1ck	0	SW	.....	0.05	1.3	Clear	
New Orleans, Louisiana	29.89	759.2	29.95	760.7	56	13.3	94	NE	7	3.1	.....	.....	10n	.....	W	0.56	14.2	Light rain	
Newport, Rhode Island	29.72	754.9	29.78	756.4	26	— 3.3	75	W	5	2.2	.....	5cs	0	W	.....	0.03	0.8	Fair	
New York, New York	29.62	752.3	29.81	757.2	26	— 3.9	75	W	7	3.1	.....	Haze	5s	Calm	Calm	0.15	3.8	Fair	
Norfolk, Virginia	29.82	757.4	29 88	758.9	41	5.0	100	E	6	2.7	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	27.01	687.6	29.70	754.4	22	— 5.6	79	NW	6	2.7	.....	5cs	5s	Calm	Calm	0	0	Cloudy.....	
Olympia, Washington Ter.	29.87	758.7	29.91	759.7	47.3	8.5	92	S	7	3.1	.....	.....	10n	.....	Calm	1.45	36.8	Light rain...	
Omaha, Nebraska	28.88	732.3	29.97	761.2	31	— 0.6	79	N	3	1.3	.....	8k	2s	NW	Calm	0	0	Cloudy	
Oswego, New York	29.32	744.7	29.64	752.8	26	— 3.3	88	SE	3	1.3	.....	8c	0	W	.....	0.12	3.0	Fair.....	
Pembina, Dakota	29.17	740.9	30.14	765.5	—22	—30.0	100	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Philadelphia, Pa	29.76	755.9	29.81	757.2	26	— 3.3	75	W	4	1.8	.....	8cs;k	Fog	W	Calm	0.01	0.3	Cloudy	
Phœnix, Arizona	28.90	734.0	30.73	780.5	51	10.6	59	Calm	0	0	.....	5c	0	W	.....	0	0	Fair.....	
Pike's Peak, Colorado	17.67	448.8	29.88	758.9	10	—12.2	38	N	56	25.0	.....	0	5s	.....	N	0	0	Fair.....	
Ploche, Nevada	24.20	614.7	29.97	761.2	34	1.1	52	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	28.96	735.3	29.78	756.4	28	— 2.2	77	SW	8	3.6	.....	1k	0	SW	.....	0.16	4.1	Clear.....	
Port Huron, Michigan	28.90	734.0	29.58	751.3	25	— 3.9	87	W	14	6.3	.....	0	0	.....	.....	Inap.	Inap	Clear.	
Portland, Maine	29.59	751.6	29.64	752.8	23	— 5.0	73	W	12	5.4	.....	1k	0	Calm	.....	0	0	Clear.....	
Portland, Oregon	29.98	761.5	30.08	764.0	50.5	10.3	83	S	13	5.8	.....	.....	10s	.....	S	0.08	2.0	Cloudy.....	
Prescott, Arizona	24.87	631.7	30.23	767.8	30	— 1.1	57	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pilot Point, Texas	29.08	738.6	29.90	759.4	51	10.6	93	NW	10	4.5	.....	5k	5s	N	NW	0	0	Cloudy.....	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	59	15.0	76	SE	7	3.1	.....	2ck	0	SW	.....	0	0	Clear.....	
Red Bluff, California	29.80	756.9	30.17	766.3	48	8.9	78	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rio Grande City, Texas	29.86	758.4	30.08	764.0	62	16.7	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Rochester, New York	28.98	736.1	29.61	752.1	23	— 5.0	86	W	4	1.8	.....	4c	0	W	.....	0.03	0.8	Fair.....	
Roseburg, Oregon	29.64	752.8	30.22	767.6	43.5	6.4	92	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	30.07	763.8	30.16	766.1	49	9.4	89	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.47	748.5	30.06	763.5	37	2.8	71	W	8	3.6	.....	5k	5s	W	Calm	0	0	Cloudy.....	
St. Marks, Florida	29.96	761.0	29.98	761.5	56	13.3	94	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.....	
St. Paul, Minnesota	29.11	739.4	30.02	762.5	1	—17.2	56	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.81	655.6	30.14	765.5	36	2.2	53	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
San Antonio, Texas	29.36	745.7	29.95	760.7	53	11.7	54	N	8	3.6	.....	0	0	.....	.....	0.20	5.1	Clear..	
San Diego, California	30.00	762.0	30.07	763.8	51	10.6	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Sandusky, Ohio	29.01	736.8	29.70	754.4	31	— 0.6	69	SW	21	9.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Sandy Hook, New Jersey	29.76	755.9	29.80	756.9	27	— 2.8	76	W	14	6.3	.....	2k	5s	W	W	0.09	2.3	Cloudy.....	
San Francisco, California	30.10	764.5	30.17	766.3	50.2	10.1	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	32	0.0	59	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.90	759.4	29.99	761.7	52	11.1	86	SW	1	0.4	.....	10cs	Fog	SW	Calm	0	0	Cloudy.....	
Shreveport, Louisiana	29.83	757.7	30.06	763.5	48	8.9	85	N	7	3.1	.....	0	2s	.....	Calm	0.65	16.5	Fair	
Silver City, New Mexico	24.35	618.5	30.03	778.0	40	4.4	73	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	29.92	760.0	29.96	761.0	51	10.6	86	SW	18	8.0	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Springfield, Massachusetts	29.62	752.3	29.76	755.9	20	— 6.7	70	Calm	0	0	.....	.....	10s	.....	S	0.05	1.3	Cloudy.....	
Stockton, Texas	27.11	688.6	30.11	764.8	33	0.6	79	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.68	753.9	29.71	754.6	26	— 3.3	52	SW	16	7.2	.....	1c	0	W	.....	0.02	0.5	Clear	
Toledo, Ohio,	28.97	735.8	29.66	753.4	34	1.1	70	SW	24	10.7	.....	0	8ks	.....	W	0	0	Cloudy.....	
Tucson, Arizona	27.61	701.3	30.16	766.1	49	9.4	50	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.64	752.8	30.14	765.5	41.5	5.3	86	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	11	—11.7	100	NW	.....	.....	2	.....	10s	.....	NW	.....	.....	Snowing.....	
Uvalde, Texas	29.21	741.9	30.04	763.0	52	11.1	47	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	29.80	756.9	30.07	763.8	48	8.9	85	N	7	3.1	.....	.....	10s	.....	Calm	2.15	54.6	Cloudy.....	
Virginia City, Montana	24.16	613.6	29.64	752.8	42	5.6	42	W	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.79	756.7	30.17	766.3	45.7	7.6	87	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C	29.72	754.9	29.83	757.7	34	1.1	79	SW	3	1.3	.....	8ck	2ks;fg	W	W;S	0.02	0.5	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	46	7.8	54	N	.....	.....	1	8cs	0	NW	.....	0	0	Fair.....	
Wilmington, N. Carolina	29.82	757.4	29.90	759.4	54	12.2	61	SW	11	4.9	.....	.....	10s	.....	W	0	0	Cloudy.....	
Winnemucca, Nevada	25.83	656.1	30.19	766.8	29	— 1.7	67	NE	6	2.7	.....	0	5s	.....	Calm	0	0	Fair.....	
Wood's Holl, Mass	29.71	754.6	29.75	755.6	29	— 1.7	89	SW	8	3.6	.....	5cs	1s	SW	SW	0.10	2.5	Cloudy.....	
Yankton, Dakota	28.70	729.0	30.07	763.8	20	— 6.7	70	NE	5	2.2	.....	10ck	0	NW	.....	0	0	Cloudy	
Yuma, Arizona	29.84	757.9	30.00	762.0	57	13.9	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
Fayetteville, Ark	28.47	723.1	29.93	760.2	37	2.8	37	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	J. B. Gordon.
Havana, Cuba, W. I	30.01	762.2	30.06	763.5	67	19.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.96	761.0	30.04	763.0	75	23.9	.....	NE	8	3.6	.....	.....	.....	.....	.....	0.30	7.6	Cloudy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	80	26.7	82	NE	.....	.....	2	5k	7ks	E	.....	0	0	½ clouded...	O. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	29.88	758.9	29.93	760.2	— 6.0	—21.1	81	NW	16	7.2	.....	.....	9s	.....	NW	0.19	4.8	Cloudy.....	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,706 feet, or 520 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 2,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; La Mesilla, (?); Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,037.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,680 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,276 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.32 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.10	764.5	50	10.0	48	8.9	92	SE	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.05	763.3	68	20.0	68	20.0	90	NW	10	4.5	.....	.....	.....	.....	NW	0.84	21.3	.....	.....	Thunder-storm.	
Navy Yard, Portsmouth, N.H	29.70	754.4	49	9.4	21	— 6.1	86	WSW	3	1.3	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Naval Hospital, Yokohama, Japan.....*	29.64‡	752.8‡	.....	.....	45	7.2	39	N	.....	.....	3	.....	0	.....	.....	2.39	60.7	.....	.....	Clear	
Adams, Panama	29.97	761.2	76	24.4	75	23.9	95	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Fair	
Alaska, N. 26° 04′, W. 111° 15′	30.07	763.8	69	20.6	65	18.3	94	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy	
Alliance, Villafranca, France	29.08‡	738.6‡	.....	.....	53	11.7	36	W	.....	.....	5	.....	3	.....	S;W	.....	.....	Heavy	.....	Clear	
Ashuelot, Hong-Kong, China	29.97‡	761.2‡	.....	.....	62	16.7	83	ENE	.....	.....	5	.....	10	.....	Calm	.....	.....	.....	.....	Hazy	
Canonicus, New Orleans, La	29.99	761.7	45	7.2	57	13.9	94	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	29.07	738.4	27	— 2.8	26	— 3.3	100	SW	4	1.8	.....	.....	8	.....	.....	.....	.....	.....	.....	Hazy	
Constitution, Lisbon, Portugal	29.78‡	756.4‡	.....	.....	49	9.4	93	NNW	.....	.....	2	.....	8	.....	N	.....	.....	.....	.....	Cloudy	
Despatch, Constantinople, Turkey	29.85‡	758.2‡	.....	.....	61	16.1	55	SSW	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va.	29.98	761.5	62	16.7	42	5.6	91	ENE	.....	3.6	.....	.....	10	.....	Calm	0	0	.....	.....	Overcast	
Gettysburg, Genoa, Italy	29.60‡	751.8‡	.....	.....	44	6.7	100	NNE	.....	.....	3	.....	10	.....	.....	Blank	Blank	Long	SW	Rainy	
Hartford, Montevideo, Uruguay	29.97	761.2	72	22.2	70	21.1	80	NE	.....	.....	6	.....	10	.....	ENE	0.25	6.3	Mod'ate	NE	Cloudy	
Lackawana, Panama.....*..	29.71‡	754.6‡	.....	.....	75	23.9	95	NW	.....	.....	1–2	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.....†	29.82	757.4	.....	.....	31	— 0.6	89	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Monocacy, Shanghai, China.....*	30.03‡	762.8‡	.....	.....	46	7.8	84	SE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Monongehela, Yokohama, Japan .....*..	29.63‡	752.6‡	.....	.....	42	5.6	83	NNW	.....	.....	2	.....	1	.....	N	Mod'ate	Mod'ate	.....	.....	Squally	
New Hampshire, Port Royal, S. C.	30.01	762.2	53	11.7	45	7.2	??	S	10	4.5	.....	.....	2	.....	S	0	0	.....	.....	Clear	
Onward, Callao, Peru.....†	30.02	762.5	.....	.....	68	20.0	90	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	30.06	763.5	37	— 2.8	28	— 2.2	88	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Light mist	
Passaic, Washington, D. C.	.....	.....	.....	.....	19	— 7.2	84	SSW	.....	.....	3	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Pensacola, S. 37° 00′, W. 93° —′	30.19‡	766.8‡	.....	.....	65	18.3	78	SSE	19	8.5	.....	.....	10	.....	SSE	0.1	3.	Long	SSW	Cloudy	
Powhatan, N. 22° 2′, W. 77° 17′	30.15	765.8	74	23.3	74	23.3	68	ESE	.....	.....	4	.....	5	.....	E	0.4	10.	Smooth	.....	Fair	
Quinnebaug, Villafranca, France	29.06‡	738.1‡	.....	.....	53	11.7	42	WSW	.....	.....	4	.....	2	.....	W	.....	.....	Ground	S	Clear	
Ranger, Kobe, Japan.....*	30.06‡	763.5‡	.....	.....	48	8.9	78	NNE	.....	.....	2	.....	10	.....	Calm	.....	.....	Smooth	.....	Overcast	
Richmond, N. 43° 30′, E. 9° 30′	29.03‡	737.3‡	.....	.....	50	10.0	86	SW	.....	.....	8	.....	8	.....	.....	.....	.....	Heavy	.....	Cloudy	
Rio Bravo, Brownsville, Texas	29.89	759.2	68	20.0	67	19.4	100	S	.....	.....	1	.....	Fog	.....	S	.....	.....	.....	.....	Foggy	
Santee, Annapolis, Md.	29.84‡	757.9‡	.....	.....	34	1.1	100	N	.....	.....	0–1	.....	10	.....	W	0.02	0.5	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.77	756.1	55	12.8	26	— 3.3	.....	SW	5	2.2	.....	.....	8	.....	SW	0.04	1.0	.....	.....	Cloudy	
Supply, N. 22° 06′, W. 49° 53′	30.19‡	766.8‡	.....	.....	76	24.4	86	N	.....	.....	1	.....	5	.....	N	.....	.....	Long	NW	Fair	
Trenton, Villafranca, France	29.22‡	742.2‡	.....	.....	53	11.7	43	WSW	.....	.....	2–4	.....	0	.....	.....	1.60	40.6	Heavy	S	Clear	
Tuscarora, Acapulco, Mexico	29.97‡	761.2‡	.....	.....	77	25.0	77	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Wabash, Boston, Mass.	29.72‡	754.9‡	.....	.....	24	— 4.4	74	W	7	3.1	.....	.....	2	.....	.....	.....	.....	.....	.....	Hazy	
Wyoming, Smyrna, Turkey	29.92‡	760.0‡	.....	.....	65	18.3	84	S	.....	.....	3–4	.....	5	.....	S	.....	.....	Mod'ate	S	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada, N. 28° 00′, W. 115° 50′..†*		30.28‡	767.8‡	60	15.6	94	SE			1		10		Calm	0	Small	WNW	Gloomy	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 31° 51′, W. 137° 58′		30.20‡	767.1‡				S			2		Fog		NE		Smooth	NW	Foggy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 26° 42′, E. 121° 49′....*		29.89‡	759.2‡	62	16.7	61	SE			4		ks		SW		Mod'ate	SSE	Hazy	J. A. Thompson, 2d Off'r.
S. S. Gaelic, N. 38° 17′, W. 146° 02′...†.		29.87‡	758.7‡	55	12.8	74	NW			5		k		NE	0	Swell	NW	D. clouds	Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 45° 05′, W. 9° 56′		29.83‡	757.7‡	48.0	8.9	100	NE			5		5		N		High	NW	Fine	Capt. C. Undütsch.
S. S. Leipzig, Cape Henry, Va		29.79‡	756.7‡	36.5	2.5		E			3		10		NE	0	2	NE	Foggy	Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.				28	— 2.2		WSW			2		9		WSW	Blank			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool†		29.56‡	750.8‡	36	2.2		NNE			2		1		NNE	0			Fair	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			
S. S. Hibernian, Cape Henry, Va.		29.89‡	759.2‡	38	3.3		E			1		10s		NNE				Drizzling	Capt. W. Richardson.
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

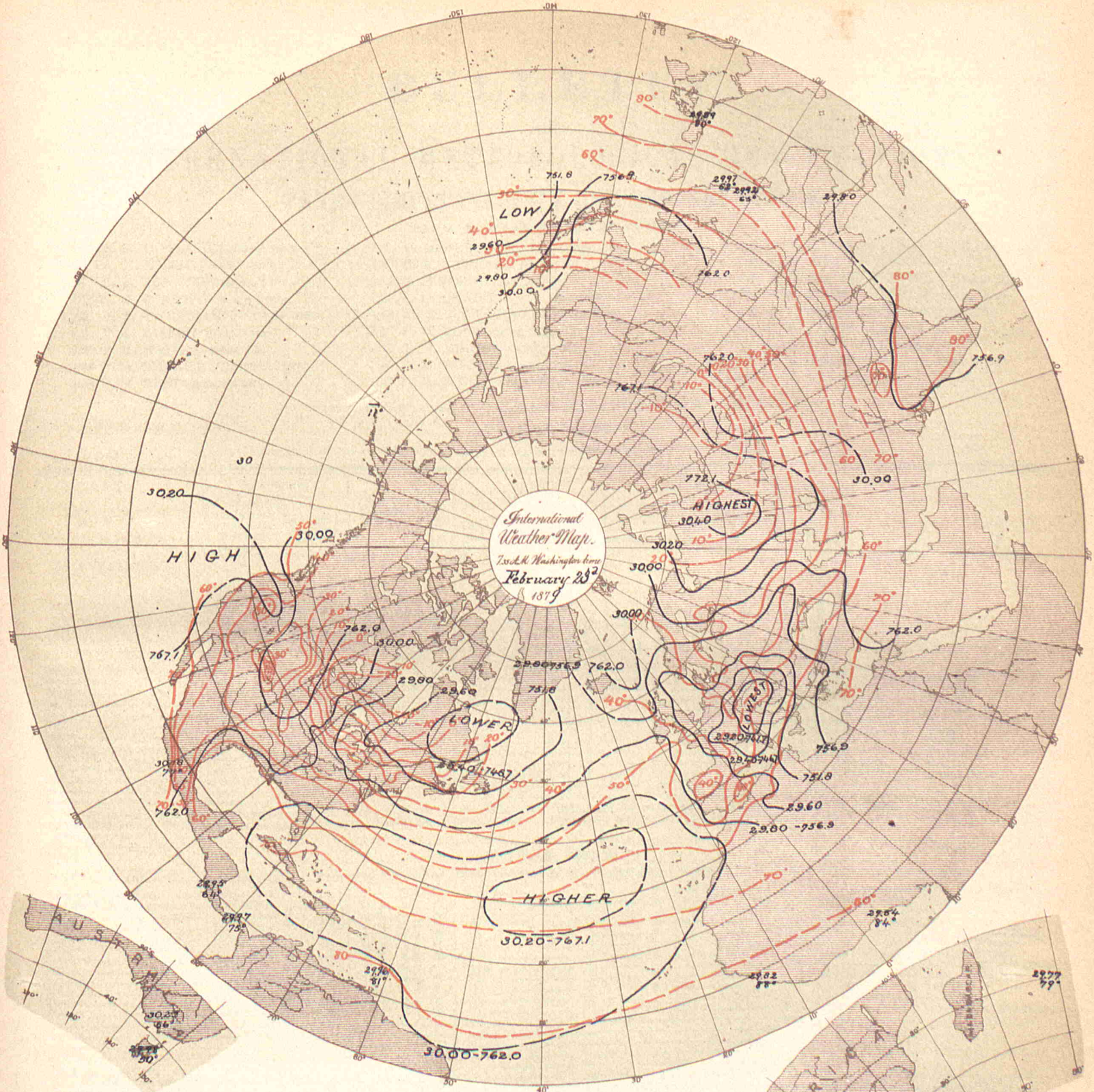
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE RIVERSIDE PRINTING CO. 230 CONGRESS ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 24, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco			30.11	764.7	58.3	14.6		NE			3		5			0	0	Cloudy	
Nemours			29.76	755.8	44.2	6 8	94	ESE			1		10			1.535	39.0	Covered	Kesxubhe.
Algiers			29.60	751.7	46.0	7.8	85	NNE			4		10			1.465	37.2	Raining	Tourillere.
La Calle			29.50	749.3	58.5	14.7	68	E			7		5			0	0	Cloudy	Foufrede.
Tunis			29.47	748.5	61.7	16.5	51	E			5		2			0	0	Fair	Jacques.
Sfax			29.63	752.5															Grau.
Saida			29.70	754.3	37.4	3.0	59	WNW			1		10			0.756	19.2	Snowing	Herbin.
Tebessa			29.61	752.2	60.4	15.8	52	SSW			8		5			0	0	Cloudy	Watrin.
Geriville			29.61	752.1	32.4	0.2	96	NW			6		10			0.016	0.4	Snowing	Brugnianx.
Laghouat			29.63	752 6	51.1	10.6	77	NW			5		5			0	0	Cloudy	Bertrand.
Biskra			29.59	751.6	71.2	21.8	24	SE			5		8			0.047	1.2	Very cloudy	Chanvaux.

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.11	739.5	29.66	753.4	50.4	10.2	46	NW			4		5			0.551	14.0		Prof. Ivan Stoair.
Cracow, I. R. Observatory	28.76	730.4	29.53	750.1	39.2	4.0	48	W			5		8			0	0		Dr. Wierabiski
Eperies	28.66	728.0	29.54	750.3	47.5	8.6	70	S			4		cs		N	0.244	6.20		Julius Mikolik.
Gratz	28.43	722.0	29.69	754.2	41.2	5.1	73	S			1		3			0.520	13.2		Andreas Rospini.
Hermannstadt	28.28	718.2	29.69	754.0	56.1	13.4	63	N			2		4			0.008	0.20		Prof. A. Gottschling.
Kremsmünster	28.35	720.2	29.66	753.3	34.3	1.3	73	NW			3		2			0.110	2.8		Prof. O. Wagner.
Lemberg	28.50	723.9	29.48	748.9	46.9	8.3	70	SW			4		0			0	0		Dr. T. Stanecki.
Pola	29.57	751.0	29.68	753.9	52.7	11.5	52	WSW			2		5			0.138	3.5		I.R.Hydrographic Office.
Szathmar	29.22	742.1	29.68	753.9	50.5	10.3	73	SE			4		6			0.217	5.5	Raining	Julius Caics, S. J.
Szegedin	29.38	746.3	29.66	753.4	53.4	11.9	53	S			2		8			0	0		Karl Stancel.
Trieste	29.60	751.9	29.71	754.5	48.9	9.4	84	W			1		9			0	0	Cloudy	P. Busin.
Vienna	29.94	785.1	29.67	753.7	37.0	2.8	54	W			6		5			0	0		I. R. Central Met. Obs'y.

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			Prof. M. Passau.
Brussels	29.62	752.4	29.84	757.8	30.4	— 0.9	78	NE			1		10		NE	Inap.	Inap.		Royal Observatory
Furnes	29.84	757.8	29.86	758.4	33.4	0.8	85	E			2		8			0.031	0.8		M. E. de Cae.
Maeseyck	29.70	754.3	29.82	757.5	29.8	— 1.2	86	NNE			2		10			0	0		M. Pierrot

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.91	759.7	30.02	762.5	35.9	2.2	.....	E	21	9.4	.....	.....	1	.....	.....	0	0	Squally	W. Boswell.
Ardrossan	29.87	758.7	29.88	758.9	39	3.9	.....	ENE	.....	.....	6	.....	3	.....	.....	.....	.....	Blue sky	William McNeil.
Armagh, Observatory	.....	.....	29.93	760.2	39.0	3.9	.....	N	18	8.0	.....	.....	3	.....	.....	Blank	Blank	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.77	756.1	37.6	3.1	.....	NNW	11	4.9	.....	.....	4	.....	.....	.....	.....	D. clouds	John Hartnup.
Bolton, (Sharples)	.....	.....	29.77	756.1	35.2	1.8	.....	NNE	6	2.7	.....	.....	7	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.40	746.7	29.78	756.4	34.3	1.3	.....	N	.....	.....	2	.....	10	.....	.....	0.04	1.0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.89	759.2	29.92	760.0	80	26.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.82	757.4	40.2	4.6	.....	S	.....	.....	1	.....	5k	.....	.....	.....	.....	D. clouds	H. Todd.
Cardington	.....	.....	29.78	756.4	35.0	1.7	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.69	754.1	29.83	757.7	38.1	3.4	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	.....	Corpl. Daly, R. E.
Dartmoor	28.26	717.8	29.77	756.1	33.0	0.6	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Snowing	Alexander Watt.
Donaghadee	29.85	758.2	29.89	759.2	39	3.9	.....	NNE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.81	757.2	29.84	757.9	35	1.7	.....	ESE	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded	J. Costello.
Falmouth, Observatory	29.80	751.8	29.83	757.7	37.2	2.9	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog	The Staff.
Fort Napier, (Natal)	27.65	702.3	29.96	761.0	70.0	21.1	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.64	752.8	29.87	758.7	84	28.9	.....	NW?	.....	.....	0?	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.94	760.5	43	6.1	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.68	753.9	29.73	755.1	53.8	12.1	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.72	754.9	29.92	760.0	37.5	3.1	.....	NNE	.....	.....	8	.....	.....	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.84	757.9	29.85	758.2	35	1.7	.....	SE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.64	752.8	29.82	757.4	37.0	2.8	.....	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	The Staff, for G. B. Airy
Guernsey	29.55	750.6	29.78	756.4	36	2.2	.....	NNE	.....	.....	2	.....	5	.....	.....	Blank	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	29.64	752.8	29.76	755.9	44	6.7	.....	NE	.....	.....	2	.....	1ck	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.74	755.4	29.80	756.9	37	2.8	.....	N	.....	.....	5	.....	10	.....	.....	.....	.....	Snowing	John Tilston.
Jersey	29.49	749.0	29.79	756.7	34.4	1.3	.....	NE	.....	.....	2	.....	9	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	29.78	756.4	29.82	757.4	34.8	1.6	.....	E	9	4.0	.....	.....	1	.....	.....	.....	.....	Blue sky	The Meteorological Of.
Leicester, Museum	29.64	750.3	29.81	757.2	30.1	1.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.56	750.8	29.64	752.8	62	16.7	.....	NE	.....	.....	2	.....	3k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.93	760.2	30.03	762.8	38	3.3	.....	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.93	760.2	71.0	21.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.61	752.1	29.81	757.2	29.2	1.6	.....	S	.....	.....	2	.....	10n	.....	.....	0.216	5.46	Snowing	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.24	742.7	29.79	756.7	29.0	1.7	.....	SE	.....	.....	0–1	.....	10	.....	.....	.....	.....	Snowing	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.81	757.2	33	0.6	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.73	755.1	29.80	756.9	39.6	4.2	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.83	757.7	29.88	758.9	42	5.6	.....	N	.....	.....	6	.....	2	.....	.....	.....	.....	Clear	W. Kennedy.
Saint Ann's Head	29.64	752.8	29.80	756.9	33	0.6	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	Snowing	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.09	764.3	36.5	2.5	.....	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.96	761.0	59.2	15.1	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	W. H. Lyne.
Sheffield	29.50	749.3	29.79	756.7	34.4	1.3	.....	NE	.....	.....	1	.....	10	.....	.....	0.01	0.3	Overcast	W. F. Cooper.
Silloth Rectory	29.75	755.6	29.78	756 4	39.5	4.2	75	E	.....	.....	6	.....	6	.....	.....	0	0	D. clouds	Francis Redford, A. M.
Stonyhurst Observatory	29.37	746.0	29.78	756.4	36.8	2.7	.....	NNE	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds	Rev. S. J. Perry.
Stratfield Turgiss	29.60	751.8	29.82	757.4	31.0	0.6	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. H. Griffith, F. R. S.
Thurso	29.99	761.7	30.05	763.3	40	4.4	.....	NNE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	29.81	757.2	41	5.0	.....	NE	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	30.01	762.2	30.03	762.8	44.2	6.8	.....	N	19	8.5	.....	.....	8	.....	.....	.....	.....	D. clouds	The Meteorological Of.
SUB-SERIES.																			
Cape of Good Hope Obs'y	29.93	760.2	29.96	761.0	75	23.9	70	S	22	9.8	.....	0	1	.....	.....	0	0	.....	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.93	760.2	57.0	13.9	88	S	.....	.....	3	.....	1	.....	.....	0	0	Hazy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.97	761.2	33.9	1.1	.....	E	.....	.....	7	.....	10k	S	.....	0.13	3.3	Rain & snow	Andrew Gibb.
Mauritius, Observatory	29.56	750.8	29.74	755.4	81.0	27.2	69	SE	22.5	10.1	.....	0	3	.....	SE	0.18	4.6	Squally	C. Meldrum.
Melbourne, Observatory	30.05	763.3	30.14	765.5	54.8	12.7	76	SE	2	0.9	.....	.....	0	.....	.....	0.01	0.3	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.19	766.8	42	5.6	.....	NE	.....	.....	3	0	0	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.01	762.2	40	4.4	.....	NE	.....	.....	4	2	3	NE	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

BRITISH MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Brig Alliance, N. 29° 40′, W. 26° 45′	.....	.....	30.28‡	767.8‡	65.4	18.6	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	Showery	Capt. W. Scott.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle Isle, N. 18° 51′, W. 79° 50′	.....	.....	29.94	760.5	81	27.2	.....	ESE	.....	.....	2	.....	6	.....	.....	2	SE	D. clouds	Capt. A. J. Brown.
Ship "British Commodore," N. 48° 10′, W. 15° 45′	.....	.....	30.17	766.3	47	8.3	.....	N	.....	.....	4	.....	3	.....	.....	4	N	Showery	Capt. J. W. Thorne.
——City of Agra, S. 18° 50′, W. 21° 37′	.....	.....	29.98‡	761.5‡	76.5	24.7	.....	ENE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	Capt. Thos. Young.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
——Denbighshire, S. 46° 38′, W. 31° 25′	.....	.....	30.13‡	765.3‡	52	11.1	.....	NW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	Capt. H. Murdoch.
Barque Meriole, N. 36° 13′, W. 9° 36′	.....	.....	29.90‡	759.4‡	53.7	12.1	.....	N	.....	.....	7	.....	6	.....	.....	.....	.....	Squally	Capt. E. W. Turner.
S. S. Nizam, N. 17° 14′ W. 65° 23′	.....	.....	29.89‡	759.2‡	76	24.4	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Capt. Barlow
——Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. McMontry,
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2cs;k	.....	NE	.....	0	0	.....	Mr. Ansart.
San José	26.22	666.0	29.94	760.5	62.6	17.0	83	NE	.....	.....									Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.45	748.1	29.50	749.3	33.1	0.6	89	N	.....	.....	6	.....	10	.....	.....	.....	.....	Snowing.
Fanöe	29.69	754.0	29.71	754.5	31.8	— 0.1	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	.....
Godthaab, (Greenland)	28.67	728.1	28 71	729.2	32.7	0.4	90	S	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								.....
Thorshavn, (Faröe)	30.21	767.4	30.25	768.3	37.0	2.8	66	NNE	.....	.....	2	.....	1	.....	.....	.....	.....	.....
Vestervig	29.65	753.0	29.82	757.3	29.8	— 1.2	92	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.21	742.0	29.76	756.0	35.2	1.8	78	E	.....	.....	3	.....	10	.....	.....	0.138	3.5	Snowing	Collignon, Director.
Amiens, Normal School	29.70	754.3	29.82	757.3	33.8	1.0	81	NE	.....	.....	1	.....	10	.....	E	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.60	751.9	29.68	753.9	46.4	8.0	46	N	.....	.....	3	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.20	741.8	29.79	756.7	34.3	1.3	74	W	.....	.....	1	.....	10n	.....	.....	0	0	Covered	O. Saillard, Director.
Beauvais, Normal School	29.67	753.0	29.86	758.5	34.9	1.6	68	NNE	.....	.....	1	.....	8	.....	E	0	0	Very cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	28.86	733.1	29.79	756.6	35.8	2.1	62	E	.....	.....	2	.....	8	.....	E	0.024	0.6	Very cloudy	A. Carré, Director.
Bourg-en-Bresse, N. School	28.91	734.4	29.81	757.2	37.9	3.3	63	W	.....	.....	2	.....	kn	W	W	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.20	741.7	29.77	756.1	35.2	1.8	67	ENE	.....	.....	1	.....	1	ENE	ENE	0.016	0.4	Clear	A. Waquet, Director.
Brest, Naval Observatory	29.59	751.6	29.83	757.7	43.5	6.4	61	NNE	.....	.....	3	.....	8	.....	NNE	0.010	0.25	.....	M. de Rermaree, Director
Carcassonne, Normal School	29.27	743.4	29.69	754.1	46.0	7.8	44	W	.....	.....	1	.....	0	.....	.....	0.16	4.	Clear	September, Director.
Caen, Normal School	29.70	754.3	29.77	756.2	36.3	2.4	76	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Lair, Director.
Chartres, Normal School	29.12	739.5	29.70	754.4	36.5	2.5	93	E	.....	.....	1	.....	9	.....	SW	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.48	748.9	29.82	757.3	35.1	1.7	85	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.81	719.2	29.71	754.5	39.2	4.0	39	NE	.....	.....	1	.....	2	.....	NW	0	0	.....	Alluard, Director.
Commercy, Normal School	28.87	733.4	29.79	756.7	32.5	0.3	96	N	.....	.....	1	.....	10kn	.....	N	0	0	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.50	724.0	29 65	753.0	40.5	4.7	49	NW	.....	.....	4	.....	5	.....	NW	0	0	½ covered	M. Kina, Director.
Grenoble, Normal School	28.97	735.7	29.75	755.7	37.4	3	67	NW	.....	.....	4	.....	8kn	SE	SE	0.008	0.20	Very cloudy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.50	749.2	29.72	754.9	39.6	4.2	59	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.43	747.5	29.75	755.7	33.3	0.7	92	SE	.....	.....	2	.....	8	.....	SE	0.030	0.75	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.82	732.1	29.76	755.9	40.5	4.7	54	N	.....	.....	1	2c	.....	.....	SE	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.68	753.8	29.78	756.3	39.6	4.2	73	N	.....	.....	4	.....	.....	.....	N	0.47	12.	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								.....	M. Galsin, Director
Mirecourt, Normal School	28.69	728.8	29.78	756.4	33.4	0.8	76	NW	.....	.....	1	.....	kn	.....	SE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.50	749.4	29.71	754.6	48.6	9.2	40	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	28.59	726.1	29.08	753.9	37.0	2.8	72	N	.....	.....	1	c	.....	N	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24 67	626.6	.....	.....	24.1	— 4.4	100	E	.....	.....	2	.....	10	ENE	.....	0.228	5.8	Covered	Alluard, Director.
Rochefort, Naval Obs'y	29.63	752.6	29.66	753.4	40.3	4.6	84	ENE	.....	.....	1	.....	5	N	ENE	0	0	½ covered	Lt. Decante, Director.
Rouen, Normal School	29.71	754.6	29.80	756.8	36.1	2.3	58	ENE	.....	.....	2	.....	5	.....	NE	0	0	Cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.73	755.1	29.76	755.9	37.9	3.3	66	NE	.....	.....	3	.....	1	NE	NE	0.127	3.22	Clear	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.62	752.3	29.78	756.6	34.3	1.3	57	NE	.....	.....	1	.....	.....	.....	N	0	0	.....	E. Reaon, Director.
Tarbes, Normal School	28.65	727.7	29.73	755.1	50.0	10	62	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Versailles Observatory	29.28	743.8	29.78	756.3	32.4	0.2	.....	E	.....	.....	2	.....	5	.....	.....	0	0	Light fog	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.95	735.4	29.70	754.3	37.9	3.3	75	N	.....	.....	1	.....	2	.....	S	0.16	4.	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.7	29.94	760.4	73.8	23.2	.....	.....	.....	.....						0	0	.....	L'Abbé Marchési.
Lyons Obs'y, (Park Station)	.....	.....	29.74	755.3	39.6	4.2	49	NNW	.....	.....	1	.....	6	.....	.....	0.35	0.9	Cloudy	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								.....	The Staff.
Mont-Louis	24.24	615.8	29.50	750.8	26.2	— 3.2	53	WSW	.....	.....	3	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.62	752.4	52.7	11.5	49	WSW	.....	.....	2	.....	5	.....	.....	0	0	.....	Dr. A. Nicpce, Jr.
Paris, Montsouris Obs'y	29.50	749.2	.....	.....	33.3	0.7	70	ENE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Covered	Marié Davy, Director.
Perpignan	29.58	751.3	29.69	754.0	44.6	7.0	50	N	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....								.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	21.95	557.5	.....	.....	19.4	— 7.0	.....	N	.....	.....	2	.....	0	.....	.....	0.193	4.9	Clear	Gen'l de Nansouty.
Toulouse, Observatory	29.00	736.7	29.72	754.9	39.6	4.2	65	SE	.....	.....	2	.....	2	.....	.....	0	0	.....	M. Mercadier Juller.
Tours	.....	.....	.....	.....	.....	.....	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.00	761.9	30.02	762.5	49.8	9.9	98	ESE	6.0	2.7	.....	.....	10	.....	.....	0.016	0.4	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.80	731.4	29.63	752.6	32.7	0.4	85	W			6		8			0.197	5.0	Snowing	Prof. Dr. Hoh.
Berlin	29.19	741.3	29.36	745.8	33.6	0.9	92	N			3		10			0.661	16.8	Snowing	Prof. Arndt.
Breslau	28.91	734.2	29.43	747.4	34.5	1.4	62	SW			5		10			0.247	6.27		Royal University Obs'y
Carlsruhe	29.34	745.2	29.78	756.4	33.3	0.7	66	WNW			1		10	SW		0	0		Albert Senx.
Cassel	29.06	738.0	29.66	753.3	30.0	— 1.1	82	WNW			7		8	N		0.127	3.22	Snowing	Dr. H. Möhl.
Crefeld	29.62	752.3	29.78	756.4	31.1	— 0.5	69	N			4		9			0	0		Director Lose.
Emden					32.0	0.0	85	N			3		0			0	0		Prof. Prestel.
Frankfort on the Main	29.16	740.7	29.63	750.1	32.7	0.4		NNE			1		10			Inap.	Inap.		Physical Society.
Friedrichshafen	28.29	718.5	29.66	753.3	33.1	0.6	78	NNW			2		0?			0.094	2.4	Snowing?	M. Wilhelm.
Hamburg	29.56	750.9	29.63	752.7	30.6	— 0.8	88	NNW			5		10			0.075	1.9		Captain F. Hegemann.
Kiel	29.60	751.7	29.61	752.1	30.2	— 1.0	95	NNW			5		10			0.028	0.71	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.30	744.2	29.38	746.3	36.1	2.3	91	E			4		6			0.118	3.0	Snowing	Prof. E. Luther.
Köslin			29.25	743.0	34.5	1.4		E			2		4			0.169	4.3		H. Müller.
Leipsic, Observatory	29.15	740.5	29.59	751.6	29.5	— 1.4	88	WNW			5		10			0.543	13.8	Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.41	747.1	29.46	748.3	34.7	1.5	89	E			4		10n					Squally	Skalweit.
Neufahrwasser	29.36	745.6	29.37	746.0	36.7	2.6	82	SSE			1		10			0.327	8.3		A. Lothes.
Posen	28.97	735.8	29.26	743.3	34.5	1.4	87	SW			8		10			0.169	4.3	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.25	742.9	29.82	757.4	32.7	0.4	59	Calm			0		8	W		0.001	0.02		Imp. University Observatory.
Stuttgart	28.77	730.8	29.69	754.0	33.3	0.7	56	NW			1		10			0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.22	716.9	29.80	756.9	27.7	— 2.4	80	W	1.1	0.5			8ck		W	0.748	19.0		Dr. Van Bebber.
Wustrow, Naval School	29.43	747.5	29.45	748.1	31.5	— 0.3	100	N			8		10			0.020	0.5	Snowing	E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.6	30.06	763 4	69.1	20.6		S			3.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.87	758.8	29.92	760.0	75.0	23.9	36	NW	11	4.9			5					Thunder-storm	
Deesa	29.36	745.7	29.83	757.6	85.5	29.7	23	W	4.7	2.1			0			0	0	Blue sky	
Bombay	29.83	757.6	29.86	758.5	79.9	26.6	62	W	6	2.7			4	W	WNW	0	0	D clouds	
Lahore	29.05	737.8	29.79	756.7	76.9	24.9	38	SE	1.2	0.5			2			0	0	Blue sky	
Belgaum	27.30	693.4	29.82	757.3	80.0	26.7	57	W	10	4.5			1			0	0	D. clouds	
Roorkee	29.01	736.9	29.93	760.2	71.8	22.1	54	Calm	2	0.9			2			0	0	D. clouds	
Agra	29.35	745.4	29.93	760.1	69.2	20.7	32	SW								0	0		
Nagpur	28.80	731.4	29.83	757.8	81.9	27.7	52	Calm	3.7	1.6			4		E	0.36	9.1	D. clouds	
Lucknow	29.52	749.8	29.90	759.4	75.3	24.1	44	WNW	1.8	0.8			2	NNE		0	0	D. clouds	
Allahabad	29.58	751.4	29.90	759.3	77.7	25.4	34	NE	1.8	0.8			0			0	0	Blue skv	
Patna	29.75	755.6	29.93	760.3	79.3	26.3	52	Calm	0.6	0.3			2			0	0		
Hazaribagh	27.89	708.3	29.93	760.2	71.3	21.8	44	N	3.3	1.5			10					Thunder	
Cuttack	29.83	757.6	29.91	759.8	79.5	26.4	64	SW	2.6	1.2			3			0	0	D. clouds	
Calcutta (Alipore)	29.88	759.0	29.90	759.5	78.6	25.9	60	N	1.0	0.4			6	W	W	0	0	D. clouds	
Goalpara	29.49	749.1	29.89	759.1	75.6	24.2	33	NW	3.4	1.5			0			0	0	Blue sky	
Chittagong	29.82	757.5	29.92	759.9	79.1	26.2	49	Calm	4.9	2.2			1			0	0	Misty	
Sibsagar	29.59	751.7	29.94	760.4	69.5	20.8	72	NE	0.8	0.4			2			0	0	Blue sky	
Jubbulpore	28.47	723.2	29.85	758.3	73.2	22.9	50	S	4.5	2.0			8	S				Drizzling	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.5 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.27	743.5	29.69	754.0	47.3	8.5	59	SW	1.8	0.6	.....	.....	2	.....	.....	0.150	3.8	.....	Prof. Giovanni Clodig.
Padua	29.56	750.8	29.67	753.6	46.6	8.1	61	NW	3.8	1.7	.....	.....	5	.....	.....	0.016	0.4	.....	Prof. Dott. Lorenzoni
Milan	29.13	739.9	29.65	753.2	45.3	7.4	57	ESE	.....	.....	2	.....	6	WSW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.71	729.2	29.63	752.5	46.8	8.2	75	N	0	0	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.71	703.8	29.65	753.1	40.1	4.5	31	NW	.....	.....	2	.....	4	SSW	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.45	748.1	29.65	753.0	49.3	9.6	53	SE	6.9	3.1	.....	.....	10	S	.....	0.031	0.8	.....	Prof. G. M. Garibaldi.
Florence	29.44	747.7	29.69	754.2	53.6	12.0	41	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Cav. F Meucci.
Leghorn	29.58	751.4	29.67	753.6	53.1	11.7	51	W	11.2	5.0	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.62	752.4	29.68	753.8	55.4	13.0	49	S	15.4	6.9	.....	.....	6	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.54	750.2	29.71	754.7	53.8	12.1	47	S	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Prof. P. S. Ferrari.
Lecce	29.47	748.6	29.72	755.0	61.0	16.1	81	SSE	9.4	4.2	.....	.....	9	SSE	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.33	745.0	29.52	749.9	55.0	12.8	60	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.84	732.4	29.72	754.9	59.4	15.2	74	SW	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.34	745.1	29.59	751.5	58.6	14.8	55	ENE	7.4	3.3	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.61	752.2	29.69	754.1	61.2	16.2	73	N	6.3	2.8	.....	.....	6	ESE	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.14	740.1	29.69	754.2	56.7	13.7	53	N	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.09	764.3	30.11	764.8	44.8	6.8	82	NE	3.1	1.4	.....	.....	10s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.10	764.5	47.5	8.6	87	ENE	1.3	0.6	.....	.....	10s	.....	.....	0.070	4.32	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.02	762.5	30.09	764.3	45.5	7.5	62	N	8.2	3.7	.....	.....	0ck;s	.....	.....	0	0	Fair	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	39.6	4.2	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	25.07	636 8	30.24	768.2	52.0	11.1	75	NNW	.....	.....	1	0	0	.....	.....	0	0	Blue sky	Prof. L. Perez.
Leon	24.44	621.0	30.11	764.8	47.3	8.5	76	Calm	0	0	.....	0	1s	.....	.....	Inap.	Inap.	Fine	Prof. M. Leal
Mexico, Central Obs'y	23.05	585.5	30.17	766.2	45.1	7.3	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	70.7	21.5	89	NW	.....	.....	1	5	2	NE	N	0 075	1.9	Rainy	M. V. de Leon, M. E.
Tlacotalpam	30.02	762.6	30.04	762.9	70.7	21.5	89	NW	.....	.....	1	5	2	NE	N	0 075	1.9	Rainy	M. M. Cházaro.
San Luis Potosi	24.21	614.9	30.19	766.7	50.0	10.0	49	ESE	.....	.....	1	0	4	.....	ESE	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	30.04	762.9	30.07	763.6	71.6	22.0	91	NW	.....	.....	.....	.....	9ks	.....	NE	0.020	0.5	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.38	593.7	30.13	765.2	41.4	5.2	80	E	1.8	0.8	.....	.....	1s	.....	Calm	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	M. V. de Leon, C. E.
Colima	28.39	721.0	30.06	763.4	71.6	22.0	63	NE	.....	.....	2	0	0	.....	.....	0	0	Covered	R. Banda, C. E.
San Juan E. Michapam	29.91	759.7	30.04	763.1	72.5	22.5	.....	Calm	.....	.....	0	6ks	4n	.....	N	0	0	.....	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.86	758.4	29.86	758.4	33.4	0.8	.....	ENE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	29.75	755.6	29.80	757.0	31.5	0.3	.....	N	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.84	757.9	29.84	757.9	32.5	0.3	.....	NNE	.....	.....	2	.....	.....	.....	.....	0.079	2.0	.....	
Hellevoetsluis	29.82	757.4	29.82	757.4	32.9	0.5	90	ENE	.....	.....	4	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.
Utrecht	29.80	756.9	29.85	758.1	33.1	0.6	65	NNE	.....	.....		.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.89	759.3	29.95	760.7	33.8	1.0	72	E	2.9	1.3	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.08	763.9	30.11	764.9	30.2	— 1.0	67	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.79	756.7	29.95	760.7	30.7	— 0.7	92	N	9	4	.....	.....	10	.....	.....	0	0	.....	
Tromsö	30.07	763.8	30.11	764.9	27.7	— 2.4	79	SW	11	5	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.07	763.8	30.26	768.7	57.7	14.8	80	N	11.2	5.0	.....	.....	6	.....	.....	0.039	1.0	.....	Dr. J. A. Sampaio.
Campo Major	28.80	731.4	29.85	758.2	46.4	8.0	52	NNW	11.2	5.0	.....	.....	7	NNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.06	763.6	30.15	765.8	61.3	16.3	45	SSW	3.1	1.4	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.54	750.2	29.91	759.6	44.2	6.8	75	NW	13.7	*6.1	.....	.....	2	.....	.....	0.039	1.0	.....	The Staff.
Ponta Delgada, (Azores)	30.22	767.6	30.29	769.4	60.8	16.0	62	S	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Portuguese Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.84	758.0	83.3	28.5	.....	WSW	.....	.....	3	.....	0	.....	.....	2	WSW	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da SilvaCosta, Porto Praya, Cape Verd Islands	.....	.....	29.95	760.7	74.5	23.6	.....	NE	.....	.....	4	.....	2	.....	NE	2	NE	D. clouds	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.78	756.4	86.0	30.0	.....	WNW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	29.93	760.2	65.7	18.7	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimarães, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.02	737.1	29.45	748.0	38.7	3.7	67	SW	22	10	.....	.....	9ks	.....	.....	.....	.....	Astronomical Obs
Wilna	29.10	739.0	29.52	749.9	36.5	2.5	89	ESE	7	3	.....	.....	10	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	29.63	752.5	29.58	759.0	28.2	— 2.1	87	ENE	11	5	.....	.....	10n	.....	.....	.....	Light snow..	Prof. Dr. Weihrauch.
St. Petersburg	30.01	762.2	30.02	762.6	27.1	— 2.7	81	E	11	5	.....	.....	8s;n	.....	.....	.....	Light snow.	Central Physical Obs.
Kieff	29.03	737.4	29.69	754.1	36.5	2.5	91	SE	16	7	.....	.....	10ks;s;n	.....	.....	.....	...	Physical Cabinet.
Nikolaiev	29.80	756.9	29.87	758.7	52.3	11.3	79	S	13	6	.....	.....	10n	.....	.....	.....	.....	Kurdakof.
Kertch	30.16	766.0	30.18	766.5	49.6	9.8	95	ESE	9	4	.....	.....	3	.....	.....	.....	.....	Lagorio.
Moscow	29.62	752.3	30.19	766.9	33.1	0.6	90	S	11	5	.....	.....	10s	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.96	761.1	30.17	766.4	41.9	5.5	83	ESE	22	10	.....	.....	9	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.28	769.1	30.30	769.6	17.2	— 8.2	91	SE	9	4	.....	.....	10	.....	.....	.....	.....	Capt. Sselliwerstow.
Tiflis	28.79	731.3	30.22	767.5	56.3	13.5	23	S	4	2	.....	.....	2k	.....	.....	.....	Heavy clouds...	Physical Observatory
Astrakhan	30.62	777.7	30.54	775.6	30.2	— 1.0	66	E	7	3	.....	.....	0	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	30.30	769.6	30.33	783.0	11.8	—11.2	64	S	18	8	.....	.....	0	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	30.46	773.7	30.76	781.2	17.1	— 8.3	63	SE	9	4	.....	.....	3	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.89	759.1	31.00	787.3	— 3.5	—19.7	59	Calm	0	0	.....	.....	1s	.....	.....	.....	Light clouds	Meteorological Obs.
Nukuss	30.02	762.4	30.26	768.6	29.3	— 1.5	92	NNE	11	5	.....	.....	10s	.....	.....	.....	.....	
Tashkend	28.47	723.1	30.21	767.2	48.2	9.0	43	NW	.....	.....	9	.....	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.61	752.1	30.20	767.0	—23.3	—30.7	78	SW	2	1	.....	.....	7	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.84	757.9	30.17	766.3	— 9.9	—23.3	70	WNW	4	2	.....	.....	0	.....	.....	.....	.....	Marks.
Peking, (China)	29.88	758.9	30.02	762.5	28.6	— 1.9	74	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.04	763.0	30.14	765.5	17.1	— 8.3	79	NNE	13	6	.....	.....	0	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.62	749.8	29.63	752.5	44.8	7.1	54	NNE	1.7	0.75	.....	.....	6k;ks	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.72	754.8	29.78	756.3	37.0	2.8	94	NW	2.6	1.18	.....	.....	10	.....	.....	0.547	13.9	Snowing	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.73	678.9	.....	.....	33.8	1.0	92	W	9.6	4.28	.....	.....	6	.....	.....	0.039	1.0	Cloudy	Domingo Martin y Peres.
Madrid, Royal Observatory	27.47	697.8	.....	.....	43.2	6.2	61	SW	5.1	2.28	.....	0	2	.....	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.49	749.1	29.65	753.0	53.8	12.1	55	WNW	3.4	1.53	.....	5	5	SSE	.....	0	0	Covered.. ...	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.0	29.86	758.4	41.4	5.2	92	NE	13.0	5.8	.....	.....	10	.....	.....	0.461	11.7	Snowing	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	759.9	29.98	761.6	66.8	19.3	90	Calm	0	0	.....	1ck;cs	1k	W	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.87	758.8	29.93	760.2	81.5	27.5	75	E	4.9	2.2	.....	.....	8s	.....	E	0	0	Covered	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.71	754.7	29.81	757.3	50.4	10.2	58	WNW	14.8	6.6	.....	0	4	.....	NW	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.90	759.5	29.99	761.8	78.0	22.8	90	S	0	0	.....	2k	1k	S	S	0.148	3.75	Clear	Leonardo de Tejeda, Ch'f Eng r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.17	766.2	30.21	767.2	23.0	— 5.0	.....	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Umea	30.13	765.3	30.18	766.6	24.8	— 4.0	95	NNE	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	
Hernosand	30.09	764.3	30.14	765.6	25.2	— 3.8	95	NE	.....	.....	2	.....	10	.....	.....	0.177	4.5	.....	
Stockholm	29.69	754.2	29.87	758.7	29.7	— 1.3	94	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Wisby	29.56	750.8	29.62	752.3	31.6	— 0.2	89	E	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.84	758.0	29.92	759.9	27.3	— 2.6	89	NNE	13.4	6.0	.....	.....	10	.....	.....	0.020	0.50	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.26	717.9	29.75	755.6	35.8	2.1	72	NE	.....	.....	2	.....	7	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.09	713.5	29.81	757.1	32.2	0.1	82	NW	.....	.....	1	.....	2	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —7.9 mm.; Thermometer, —2.8 Cent.; Relative Humidity, +4 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.6	66.0	18.9	42	SW	14	6.5	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.81	757.2	57.6	14.2	.....	S	.....	.....	3	.....	2	.....	.....	0	0	Slightly cl'dy	A. Bertrand.
Sub-Series.																			
Beirut,(Syria,) Lee Obs'y	30.03	762.8	30.14	765.6	65.5	18.6	72	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.41	747.0	29.48	748.8	16.1	— 8.8	85	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	29.44	747.8	29.78	756.4	4	—15.6	.....	W	1	0.4	.....	0	5s	.....	W	0.03	0.8	Fair.....	W. R. Bigg.
*Chatham, N B	29.39	746.5	29.45	748.0	14	—10.0	93	N	12	5.4	.....	.....	10n	.....	N	0.03	0.8	Heavy snow	G. A. Blair.
Charlottetown, P. E. Island	29.43	747.5	29.47	748.5	24	— 4.4	97	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.48	748.8	29.69	754.1	1.3	—17.1	100	W	.....	.....	2	0	5s	.....	.....	0.10	2.5	Fair.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.15	3.8	.....	W. H. Bevis.
*Father Point, Quebec	29.40	749.0	29.51	749.5	2	—16.7	89	Calm	0	0	.....	5cs	2s	.....	.....	0.03	0.8	Fair.....	J. McWilliams.
Fredericton, N. B	29.36	745.5	29.42	747.2	15.3	— 9.3	95	NW	7	3.1	.....	.....	10n	.....	.....	0.09	2.3	Light snow..	Prof. Harrison.
*Fort Garry Manitoba	28.99	736.3	29.00	750.4	— 2	—18.9	100	N	6	2.7	.....	.....	10n	.....	.....	0.180	4.57	Light snow..	James Stewart.
Granton, Ontario	28.69	728.7	29.01	759.7	4	—15.6	.....	W	.....	.....	1	.....	10n	.....	.....	0.10	2.5	Overcast.....	James Grant.
*Halifax, N. S	29.34	745.2	29.48	748.8	30	— 1.1	94	Calm	0	0	.....	.....	10ks	.....	SW	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.49	749.0	29.90	759.4	2.7	—16.3	92	SW	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.40	746.7	29.78	756.4	3	—16.1	82	SW	8	3.6	.....	5c	0	SW	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.54	750 3	29 58	751.3	32.2	0.1	89	SW	6	2.7	.....	.....	7ks	.....	.....	0.050	1.27	Snow-squalls	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.44	747.8	29.66	753.4	5	—15.0	77	SW	18	8.0	.....	8cs	2s	.....	.....	0.02	0.5	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.08	738.6	29.87	758.7	— 9	—22.8	61	NW	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.00	736.6	29.82	757.4	3.7	—16.7	82	NW	.....	.....	.....	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.92	760.0	2	—16.7	95	N	2	0.9	.....	10ck	0	NW	.....	0.08	2.0	Fair.....	H. Morgan.
Port Hastings, N. S	29.51	749.5	29.56	750.8	20.7	— 6.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.21	741.9	29.91	759.7	10	—12.2	92	W	10	4.5	.....	.....	8ks	.....	W	0.02	0.5	Cloudy.....	M. Payne.
*Quebec, Quebec	29.20	741.7	29.56	750.6	8	—16.1	100	W	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.29	744.0	29.82	757.4	—13	—25.0	79	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	W. H. McIntyre.
St. Andrews, N. B	29.38	746.2	29.43	747.5	22	— 5.6	89	NW	.....	.....	3	0	5n	.....	.....	0.20	5.1	Light snow..	Dr. Gove.
St. John, N. B	29.22	742.2	29.38	746.2	31	— 0.6	100	SW	17	7.6	.....	.....	10n	.....	.....	0.19	4.8	Snowing.....	G. Murdock, C. E.
*Saugeen, Ontario	29.06	738.1	29.84	757.9	7	—13.9	86	NE	2	0.9	.....	.....	10s	.....	.....	0.40	10.2	Heavy snow	K. Stewart.
Stayner, Ontario	28.97	735.8	29.83	757.7	4	—15.6	84	N	6	2.7	.....	.....	10n	.....	.....	0.66	16.8	Cloudy	R. J. Cole.
Stratford, Ontario	28.49	723.6	29.02	760.0	— 1.7	—18.7	94	W	5	2.2	.....	1cs	3s	.....	.....	0	0	Fair.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.55	750.6	29.59	751.6	24	— 4.4	92	S	9	4.0	.....	5c	Haze	SW	.....	0	0	Hazy.....	T. C. Hill. ¶
*Toronto, Ontario	29.43	747.5	29.86	758.2	7	—13.9	84	NW	12	5.4	.....	5ck	5ks	NW	NW	Inap.	Inap.	Cloudy.....	Magnetic Observatory.
Windsor, N. S	29.36	745.7	29.46	748.3	30.0	—1.1	89	W	14	6.3	.....	.....	10n	.....	.....	.....	.....	Snowing.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	31.0	— 0.6	100	S	.....	.....	.....	.....	10	.....	.....	0	0	Overcast.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Cloud. Amount. Up'er 0—10.	Cloud. Amount. Low'r 0—10.	Cloud. Direction. Upper. From—	Cloud. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.54	750.3	29.79	756.7	13	—10.6	72	Calm	0	0	.....	1c	0	W	.....	0.10	2.5	Clear	
Alpena, Michigan	29.18	741.2	29.89	759.2	0	—17.8	70	Calm	0	0	.....	.....	8s	.....	W	0	0	Cloudy	
Atlanta, Georgia	28.82	732.0	29.98	761.5	47	8.3	48	NW	9	4.0	.....	2k	Sm'e	Calm	Calm	0	0	Smoky	
Atlantic City, New Jersey	29.92	760.0	29.94	760.5	25	— 3.9	62	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.88	758.9	30.06	763.5	40	4.4	73	Calm	0	0	.....	2k	2s;fg	SE	SE;Calm	0.20	5.1	Fair	
Baltimore, Maryland	29.90	759.4	29.95	760.7	29	— 1.7	56	N	4	1.8	.....	Haze	Sm'e	Calm	Calm	0.01	0.3	Smoky	
Barnegat, New Jersey	29.89	759.2	29.91	759.7	26	— 3.3	63	NW	14	6.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Bismarck, Dakota	27.72	704.1	29.57	751.1	16	— 7.8	100	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.55	725.2	29.87	758.7	49	9.4	93	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.12	688.8	30.08	764.0	49	9.4	85	E	8	3.6	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Boston, Massachusetts	29.59	751.6	29.75	755.6	18	— 7.8	60	W	12	5.4	.....	1k	0	Calm	.....	Inap.	Inap.	Clear	
Brackettville, Texas	28.89	733.8	29.94	760.5	48	8.9	56	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.59	726.2	29.64	752.8	12	—11.1	90	SE	16	7.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Brownsville, Texas	29.99	761.7	30.06	763.5	54	12.2	93	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Dense fog	
Buffalo, New York	29.11	739.4	29.88	758.9	3	—16.1	87	SW	12	5.4	.....	2cs	0	Calm	.....	0.09	2.3	Clear	
Burkes, Arizona	.....	.....	.....	.....	44	6.7	30	S	.....	.....	1	2c	0	E	.....	0	0	Clear	
Burlington, Vermont	29.40	746.7	29.71	754.6	8	—13.3	67	W	10	4.5	.....	1k	2s	W	W	0.02	0.5	Fair	
Cairo, Illinois	29.45	748.0	29.84	757.9	47	8.3	55	S	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Camp Apache, Arizona	...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	52	11.1	29	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	31	— 0.6	58	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.49	698.0	30.05	763.3	32	0.0	61	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.00	762.0	30.01	762.2	39	3.9	82	N	1	0.4	.....	2c	0	W	.....	Inap.	Inap.	Clear	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	36	2.2	45	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	43	6.1	51	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.90	759.4	29.93	760.2	30	— 1.1	48	NW	26	11.6	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.23	742.4	29.94	760.5	52	11.1	93	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
Charleston, South Carolina	29.90	759.4	29.96	761.0	46	7.8	69	NE	4	1.8	.....	2ck	0	W	.....	Inap.	Inap.	Clear	
Cheyenne, Wyoming	28.83	605.3	29.77	756.1	47	8.3	36	W	9	4.0	.....	0	5s	.....	W	0	0	Fair	
Chicago, Illinois	29.09	738.9	29.61	757.2	26	— 3.3	88	NE	12	5.4	.....	5ks	5s	E	E	0	0	Cloudy	
Cincinnati, Ohio	29.20	741.7	29.87	758.7	34	1.1	70	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Threatening	
Cleveland, Ohio	29.15	740.4	29.92	760.0	18	— 7.8	84	SW	7	3.1	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Coleman City, Texas	28.14	714.7	29.86	758.4	37	2.8	81	S	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.02	737.1	29.89	759.2	26	— 3.3	88	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Corpus, Texas	28.00	711.2	29.68	753.9	48	8.9	42	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.49	749.0	29.96	761.0	54	12.2	80	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.08	738.6	29.74	755.4	27	— 2.8	76	E	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Deadwood, Dakota	25.02	635.5	.....	.....	45	7.2	61	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.70	729.0	29.85	758.2	53	11.7	74	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.08	738.6	29.87	758.7	53	11.7	48	S	12	5.4	.....	3c	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.60	624.8	29.82	757.4	45	7.2	39	NW	6	2.7	.....	8ck	0	NW	.....	0	0	Fair	
Des Moines, Iowa	28.72	729.5	29.61	752.1	34	1.1	79	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Detroit, Michigan	29.17	740.9	29.88	758.9	16	— 8.9	83	N	6	2.7	.....	.....	10n	.....	Calm	Inap.	Inap.	Light snow	
Dodge City, Kansas	27.18	690.4	29.50	749.3	34	1.1	90	W	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.04	737.6	29.77	756.1	21	— 6.1	71	E	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.14	740.1	29.86	758.4	10	—12.2	90	NE	9	4.0	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow	
Eagle Pass, Texas	29.21	741.9	29.97	761.2	47	8.3	70	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.37	746.0	29.44	747.8	24	— 4.4	87	NW	12	5.4	.....	5k	0	NW	.....	0.08	2.0	Fair	
Edinburg, Texas	.....	.....	.....	.....	58	14.4	88	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	26.26	667.0	.....	.....	47	8.3	24	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.14	740.1	29.90	759.4	14	—10.0	82	SW	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.18	741.2	29.90	759.4	— 1	—18.3	68	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.49	723.6	30.09	764.3	44	6.7	52	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.71	703.8	.....	.....	6	—14.4	100	NW	.....	.....	2	.....	10n	.....	Calm	0.05	1.3	Light snow	
Fort Craig, New Mexico	25.54	648.7	29.61	752.1	30	— 1.1	58	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	37	2.8	56	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.27	743.4	29.81	757.2	48	8.9	42	S	5	2.2	.....	2c	Haze	NW	Calm	0	0	Clear	
Fort Griffin, Texas	28.56	725.4	29.84	757.9	44	6.7	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.10	688.3	.....	.....	24	— 4.4	87	NW	25	11.2	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fort McKavett, Texas	27.70	703.6	29.58	751.3	59	15.0	38	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.61	726.7	29.73	755.1	39	3.9	73	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Stevenson, Dakota	29.79	756.7	.....	.....	9	—12.8	89	NE	.....	.....	6	.....	10n	.....	Calm	0.03	0.8	Light snow	
Fredericksburg, Texas	28.16	715.3	29.66	753.4	70	21.1	32	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.99	761.7	30.04	763.0	57	13.9	87	S	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Graham, Texas	28.78	731.0	29.85	758.2	42	5.6	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.18	741.2	29.87	758.7	16	— 8.9	53	E	5	2.2	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Indianapolis, Indiana	29.02	737.1	29.82	757.4	32	0.0	69	NE	4	1.8	.....	5cs	0	NW	.....	0	0	Fair	
Indianola, Texas	30.03	762.8	30.05	763.3	55	12.8	93	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksboro, Texas	29.74	755.4	29.86	758.4	51	10.6	46	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.03	762.8	30.05	763.3	48	8.9	63	NW	4	1.8	.....	0	0	.....	.....	0.34	8.6	Clear	
Keokuk, Iowa	29.01	736.8	29.63	752.6	34	1.1	79	SE	4	1.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Key West, Florida	29.95	760.7	29.98	761.5	69	20.6	85	SW	3	1.3	.....	1c;cs	3ks;fg	SW;Calm	Calm	0	0	Fair	
Kittyhawk North Carolina	29.96	761.0	29.99	761.7	37	2.8	63	W	6	2.7	.....	0	0	.....	.....	0.41	10.4	Clear	
Knoxville, Tennessee	28.96	735.6	30.00	762.0	33.5	0.8	89	NE	1	0.4	.....	8k	2s;fog	NW	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.00	736.6	29.77	756.1	17	— 8.3	67	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.10	662.9	30.24	768.1	35	1.7	53	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.60	751.8	29.95	760.7	56	13.3	94	SE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Leavenworth, Kansas	28.80	731.5	29.64	752.8	40	4.4	73	S	1	0.4	.....	8ck	0	NW	.....	0	0	Cloudy	
Los Angeles, California	29.70	754.4	30.05	763.3	45.5	7.5	92	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.26	743.2	29.82	757.4	40	4.4	56	SE	5	2.2	.....	8k	2s	E	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.26	743.2	29.96	761.0	37	2.8	52	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Madison, Wisconsin	28.79	731.3	29.83	757.7	17	— 8.3	83	NE	8	3.6	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Marquette, Michigan	29.13	739.9	29.91	759.7	0	—17.8	70	W	10	4.5	.....	5k	0	SW	.....	0	0	Fair	
Mason, Texas	28.31	719.1	30.08	764.0	48	8.9	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.59	751.6	29.91	759.7	48	8.9	56	SW	11	4.9	.....	8c	0	W	.....	0	0	Fair	
Milwaukee, Wisconsin	29.08	738.6	29.85	758.2	31	— 0.6	69	E	17	7.6	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Mobile, Alabama	30.06	763.5	30.10	764.5	43	6.1	87	N	4	1.8	.....	0	0	.....	.....	0.08	2.0	Clear	
Montgomery, Alabama	29.83	757.7	30.08	764.0	42	5.6	83	Calm	0	0	.....	.....	Fg;smk	.....	Calm	Inap.	Inap.	Clear	
Morgantown, West Virginia	28.86	733.5	29.88	758.9	33	0.6	51	SW	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Mt. Washington, N. H.	22.77	578.4	29.13	739.9	—11	—23.9	100	NW	84	37.6	.....	.....	Fog	.....	NW	0.34	8.6	Foggy	
Nashville, Tennessee	29.37	746.0	29.91	759.7	42	5.6	74	Calm	0	0	.....	10cs	Sm'e	.....	.....	Inap.	Inap.	Cloudy	
New Haven, Connecticut	29.72	754.9	29.84	757.9	27	— 2.8	53	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.76	755.9	29.81	757.2	23	— 5.0	73	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	30.01	762.2	30.07	763.8	51	10.6	72	NE	3	1.3	.....	0	0	.....	.....	0.03	0.8	Clear	
Newport, Rhode Island	29.75	755.6	29.80	756.9	23	— 5.0	73	W	14	6.3	.....	2c	0	W	.....	0	0	Clear	
New York, New York	29.72	754.9	29.91	759.7	22	— 5.6	59	NW	7	3.1	.....	2k	Haze	SE	Calm	0	0	Fair	
Norfolk, Virginia	29.92	760.0	29.98	761.5	37	2.8	63	W	1	0.4	.....	0	Haze	.....	.....	0.02	0.5	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. illimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.80	680.7	29.40	746.7	31	— 0.6	84	NW	8	3.6		8k	2s	NW	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	50.2	10.1	79	SE	11	4.9			9s		S	1.00	25.4	Cloudy	
Omaha, Nebraska	28.46	722.9	29.54	750.3	40	4 4	73	S	2	0.9		1c	Sm'e	Calm	Calm	0	0	Clear.	
Oswego, New York	29.46	748.3	29.79	756.7	24	— 4.4	61	SW	14	6.3			10n			0.38	9.7	Light snow.	
Pembina, Dakota	28.92	734.6	29.82	757.4	4	—15.6	100	E	8	3.6			10n		Calm	0.12	3.0	Light snow.	
Philadelphia, Pa	29.86	758.4	29.92	760.0	25	— 3.9	75	W	10	4.5		0	Haze		Calm	0	0	Clear.	
Phœnix, Arizona	28.84	732.5	30.08	779.3	48	8.9	49	E	1	0.4		0	0			0	0	Clear.	
Pike's Peak, Colorado	17.08	449.1	29.89	759.2	19	— 7.2	25	NW	52	23.2		5cs	0	N		0	0	Fair	
Pioche, Nevada	24.09	611.9	29.86	758.4	40	4.4	31	W	3	1.3		0	0			0	0	Clear.	
Pittsburg, Pennsylvania	29.05	737.9	29.91	759.7	19	— 7.2	85	SW	5	2.2			10n		Calm	Inap	Inap.	Light snow.	
Port Huron, Michigan	29.17	740.9	29.89	759.2	11	—11.7	80	NW	8	3.6			10s		Calm	0	0	Cloudy	
Portland, Maine	29.57	751.1	29.62	752.3	20	— 6.7	70	SW	16	7.2		1k	0	Calm		0.01	0.3	Clear.	
Portland, Oregon	29.90	759.4	30.00	762.0	52.8	11.6	90	SW	8	3.6			5s		SW	1.66	42.2	Fair	
Prescott, Arizona	24.78	629.4	30.14	765.5	30	— 1.1	57	N	3	1.3		0	0			0	0	Clear	
Pilot Point, Texas	29.12	739.6	29.94	760.5	55	12.8	86	W	18	8.0		Sm'e	Sm'e			0.01	0.3	Smoky	
Punta Rassa, Florida	29.99	761.7	30.00	762.0	62	16.7	77	N	14	6.3		0	2ks		NW	0.02	0.5	Clear.	
Red Bluff, California	29.78	756 4	30.14	765.5	52	11.1	86	Calm	0	0			10ks		Calm	0	0	Cloudy	
Rio Grande City, Texas	29.88	758.9	30.09	764.3	52	11.1	41	Calm	0	0		0	Fog			0	0	Foggy	
Rochester, New York	29.16	740.7	29.82	757.4	8	—13.3	78	W	16	7.2		5k	0	W		0.09	2.3	Fair	
Roseburg, Oregon	29.54	750.3	30.11	764.8	54.0	12.2	86	SW	6	2.7		Haze	8s		SW	0.03	0.8	Cloudy.	
Sacramento, California	30.04	763.0	30.13	765.3	51	10.6	93	SE	2	0.9		0	0			0	0	Clear.	
St. Louis, Missouri	29.16	740.7	29.74	755.4	43	6.1	51	S	12	5.4		8c;cs	1s	Calm	Calm	0	0	Fair.	
St. Marks, Florida	30.06	763.5	30.07	763.8	39	3.9	100	N	1	0.4		0	Fog		Calm	0.39	9.9	Clear.	
St. Paul, Minnesota	28.84	732.5	29.70	754.4	16	— 8.9	66	E	8	3.6			10s			0.01	0.3	Cloudy	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	44	6.7	45	S	5	2.2		0	9ks		W	0	0	Cloudy	
San Antonio, Texas	29.33	745.0	29.92	760.0	49	9.4	55	S	1	0.4		0	Fog		Calm	0	0	Foggy	
San Diego, California	29.99	761.7	30.06	763.5	50	10.0	100	N	3	1.3			Fog			0	0	Foggy	
Sandusky, Ohio	29.20	741.7	29.90	759.4	23	— 5.0	86	SW	5	2.2			10n		Calm	0.06	1.5	Light snow.	
Sandy Hook, New Jersey	29.80	756.4	29.93	759.4	26	— 3.3	63	NW	15	6.7		1k	0	NW		0	0	Clear.	
San Francisco, California	30.10	764.5	30.16	766.1	52	11.1	93	NW	1	0.4		0	0			0	0	Clear	
Santa Fé, New Mexico	23.26	590.8	29.80	756.9	32	0.0	59	N	4	1.8		0	0			0	0	Clear.	
Savannah, Georgia	29.97	761.2	30.06	763.5	45	7.2	84	N	6	2.7		2c	0	W		0.23	5.8	Fair.	
Shreveport, Louisiana	29.77	756.1	30.00	762.0	51	10.6	65	S	4	1.8		5c	0	Calm		0	0	Fair	
Silver City, New Mexico	24.33	618.0	30.60	777.2	40	4.4	40	NW	6	2.7		0	0			0	0	Clear.	
Smithville, North Carolina	30.02	762.5	30.06	763.5	41	5.0	57	N	5	2.2		2c	0	W		0	0	Fair	
Springfield, Massachusetts	29.67	753.6	29.81	757.2	21	— 6.1	57	NW	10	4.5		0	0			0	0	Clear.	
Stockton, Texas	26.92	683.8	29.92	760.0	49	9.4	57	SW	8	3.6		0	0			0	0	Clear.	
Thatcher's Island, Mass	29.67	753.6	29.72	754.9	20	— 6.7	60	NW	23	10.3		2c	0	W		Inap.	Inap.	Fair	
Toledo, Ohio,	29.16	740.7	29.87	758.7	24	— 4.4	87	SW	3	1.3			10n		Calm	0.01	0.3	Heavy snow	
Tucson, Arizona	27.67	702.8	30.22	767.6	47	8.3	48	S	2	0.9		0	0			0	0	Clear.	
Umatilla, Oregon	29.46	748.3	29.95	760.7	44.0	6.7	92	Calm	0	0		0	0			0.03	0.8	Clear.	
Unalashka, Aleutian Islands					14	—10.0	100	NW			6		10s		NW			Cloudy	
Uvalde, Texas	29.10	739.1	29.93	760.2	47	8.3	77	S	2	0.9		0	0			0	0	Clear	
Vicksburg, Mississippi	29.80	756.9	30.06	763.5	46	7.8	62	S	10	4.5		0	0			0	0	Clear	
Virginia City, Montana	24.01	609.8	29.49	749.0	43	6.1	59	SW	6	2.7			10s		Calm	0	0	Cloudy	
Visalia, California	29.73	755.1	30.11	764.8	47.5	8.6	90	SE	4	1.8		0	0			0	0	Clear.	
Washington, D. C.	30.81	757 2	29.93	760.2	31	— 0.6	48	NW	8	1.3		0	0			0	0	Clear.	
Wickenburg, Arizona					45	7.2	61	NW			1	0	0			0	0	Clear.	
Wilmington, N. Carolina	29.96	761.0	30.04	763.0	43	6.1	43	NE	4	1.8		5c	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.70	652.8	30.06	763.5	48	8.9	36	SW	8	3.6		2k	0	SW		0	0	Fair	
Wood's Holl, Mass	29.74	755.4	29.78	756.4	23	— 5.0	73	NW	26	11.6		0	2s		W	0	0	Clear.	
Yankton, Dakota	28.31	719.1	29.60	751.8	33	0.6	79	NE	1	0.4			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.81	757.2	29.97	761.2	53	11.7	73	Calm	0	0		0	0			0	0	Clear.	
Sub-Series.																			
Fayetteville, Ark	28.26	717.8	29.64	752.8	55	12.8	27												J. B. Gordon.
Havana, Cuba. W. I	29.94	760.5	29.99	761.7	72	22.2	75	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	29.88	758.9	29.96	761.0	78	25.6		E	14.6	6.5						0.06	1.5	Cloudy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	80	26.7	87	E			2	3c	5k	E		0	0	Fair	C. J. Hering
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	29.80	759.2	29.95	760.7	—23.0	—30.6		NW	11	4.9		0	4s		NW	0	0	Fair	J. Fortescue & W. Wood.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 877 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470 (?) m.; Campo, 2,500 (?) ft., or 762 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,586.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,037.5 ft., or 316.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.3 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,000 (?) ft., or 914 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.13	765.3	56	13.3	52	11.1	79	E	3	1.3	.....	.....	5	.....	E	0	0	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.12	765.0	56	13.3	56	13.3	87	N	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.76	755.9	67	19.4	17	— 8.3	83	WNW	7	3.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.08‡	764.0‡	.....	.....	45.5	7.5	68	N	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Panama	29.95	760.7	78	25.6	76	24.4	95	NW	.....	.....	3	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Alaska. Pichilinque Bay, Mexico	30.08	764.0	69	20.6	59	15.0	88	S	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Hazy	
Alliance, Villafranca, France.....	29.59‡	751.6‡	.....	.....	54	12.2	38	S	.....	.....	0-1	.....	8	.....	Calm	.....	.....	Light	.....	Threatening	
Ashuelot, Hong-Kong, China.	29.97	761.2	.....	.....	66	18.9	89	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Misty.....	
Canonicus, New Orleans, La.....	30.02	762.5	40	4.4	49	9.4	100	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	29.83	757.7	23	— 5.0	22	— 5.6	100	NW	12	5.4	.....	.....	5?	.....	.....	.....	.....	.....	.....	Clear?.....	
Constitution, Lisbon, Portugal.....	29.89‡	759.2‡	.....	.....	50	10.0	93	WNW	.....	.....	4	.....	4	.....	N	.....	.....	.....	.....	Clear	
Despatch, Constantinople, Turkey	30.02‡	762.5‡	.....	.....	70	21.1	40	SW	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.....	30.00	762.0	65	18.3	40	4.4	56	Calm	0	0	.....	.....	2	.....	Calm	0.3	8.	.....	.....	Clear.	
Gettysburg, Genoa, Italy	29.65‡	753.1‡	.....	.....	54	12.2	80	SE	.....	.....	2	.....	8	.....	SE	0	0	Smooth	.....	D. clouds.....	
Hartford, Montevideo, Uruguay...	29.80	756.9	72	22.2	71	21.7	66	WSW	.....	.....	3	.....	8	.....	NE	0.60	15.2	Smooth	.....	Cloudy.....	
Lackawana, Panama.....*...	29.70‡	754.4‡	.....	.....	75	23.9	95	NW	.....	.....	3-4	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....†...	29.95	760.7	.....	.....	13	—10.6	81	SW	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Monocacy. Shanghai, China.....*	30.05‡	763.3‡	.....	.....	50	10.0	93	SE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Monongehela, Yokohama, Japan ....*..	30.05‡	763.3‡	.....	.....	44	6.7	100	NW	.....	.....	1-2	.....	2	.....	N;W	0	0	.....	.....	D. clouds....	
New Hampshire, Port Royal, S. C.....	30.05	763.3	51	10.6	47.5	8.6	81	NNE	5	2.2	.....	.....	10	.....	NW	0.07	1.8	.....	.....	Clear	
Onward, Callao, Peru.....†...	30.00	762.0	.....	.....	68	20.0	90	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.96	761.0	31	— 0.6	28	— 2.2	100	ENE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	31	— 0.6	79	NW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, S. 37° 00′, W. 92° 20′.....	30.21‡	767.3‡	.....	.....	63	17.2	72	N	1	0.4	.....	.....	2	.....	.....	0	0	Long	S	Clear.....	
Powhatan, N. 23° 27′, W. 81° 3′.....	30.04	763.0	75	23.9	74	23.3	76	SW	.....	.....	2	.....	2	.....	NW	0.1	3.	Smooth	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.59‡	751.6‡	.....	.....	53	11.7	42	NW	.....	.....	1	.....	5	.....	NW	.....	.....	Smooth	.....	Fair	
Ranger. Kobe, Japan.....*..	30.10‡	764.5‡	.....	.....	52	11.1	79	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	D. clouds.....	
Richmond, N. 42° 50′, E. 9° 45′.....	29.23‡	742.4‡	.....	.....	53	11.7	61	SW	.....	.....	4	.....	10	.....	SW	.....	.....	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	30.00	762.0	56	13.3	54	12.2	100	SW	.....	.....	1	.....	Fog	.....	SW	.....	.....	.....	.....	Foggy	
Santee, Annapolis, Md..	29.91‡	759.7‡	.....	.....	33	0.6	100	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa.....	29.85	758.2	55	12.8	23	— 5.0	.....	WNW	11	4.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, N. 22° 02′, W. 51° 38′.....	30.12‡	765.0‡	.....	.....	77	25.0	82	E	.....	.....	4	.....	5	.....	E	.....	.....	Long	NNW	Fair.....	
Trenton Villafranca, France.....	29.57‡	751.1‡	.....	.....	52	11.1	47	SE	.....	.....	1	.....	5	.....	S;E	0.10	2.5	Heavy	S	Fair.....	
Tuscarora, Acapulco, Mexico.....	29.96‡	761.0‡	.....	.....	76	24.4	??	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	29.75‡	755.6‡	.....	.....	20	— 6.7	85	W	8	3.6	.....	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Wyoming, Smyrna, Turkey.....	30.10‡	764.5‡	.....	.....	70	21.1	95	SSE	.....	.....	3-4	.....	2	.....	S	.....	.....	Mod'ate	S	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada, N. 24° 50′, W. 112° 30′..†*		30.19‡	766.8‡	65	18.3	78	NNW			3		k		SE	0	Small	NW	Thick	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 34° 06′, W. 132° 54′		30.35‡	770.9‡				Calm			0		Fog		ENE		Smooth	NW	Foggy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 24° 26′, E. 118° 59′....*		29.84‡	757.9‡	60	15.6	76	Var.			3		ks		NE		Smooth	NE	Misty	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 17′, W. 151° 06′...†..		29.72‡	754.9‡	58	14.4	88	S			5		k;hz		SE		Swell	SW	Raining	Capt. W. H. Kidley.
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 41° 13′, W. 12° 48′....		30.08‡	764.0‡	52.0	11.1	79	NNE			6		2		NE		Mod'ate	NE	Clear	Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 5; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa				27	— 2.8		W			3		7		W	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool†		29.91‡	759.7‡	35	1.7		NE			2		2		NE	0			Fair	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

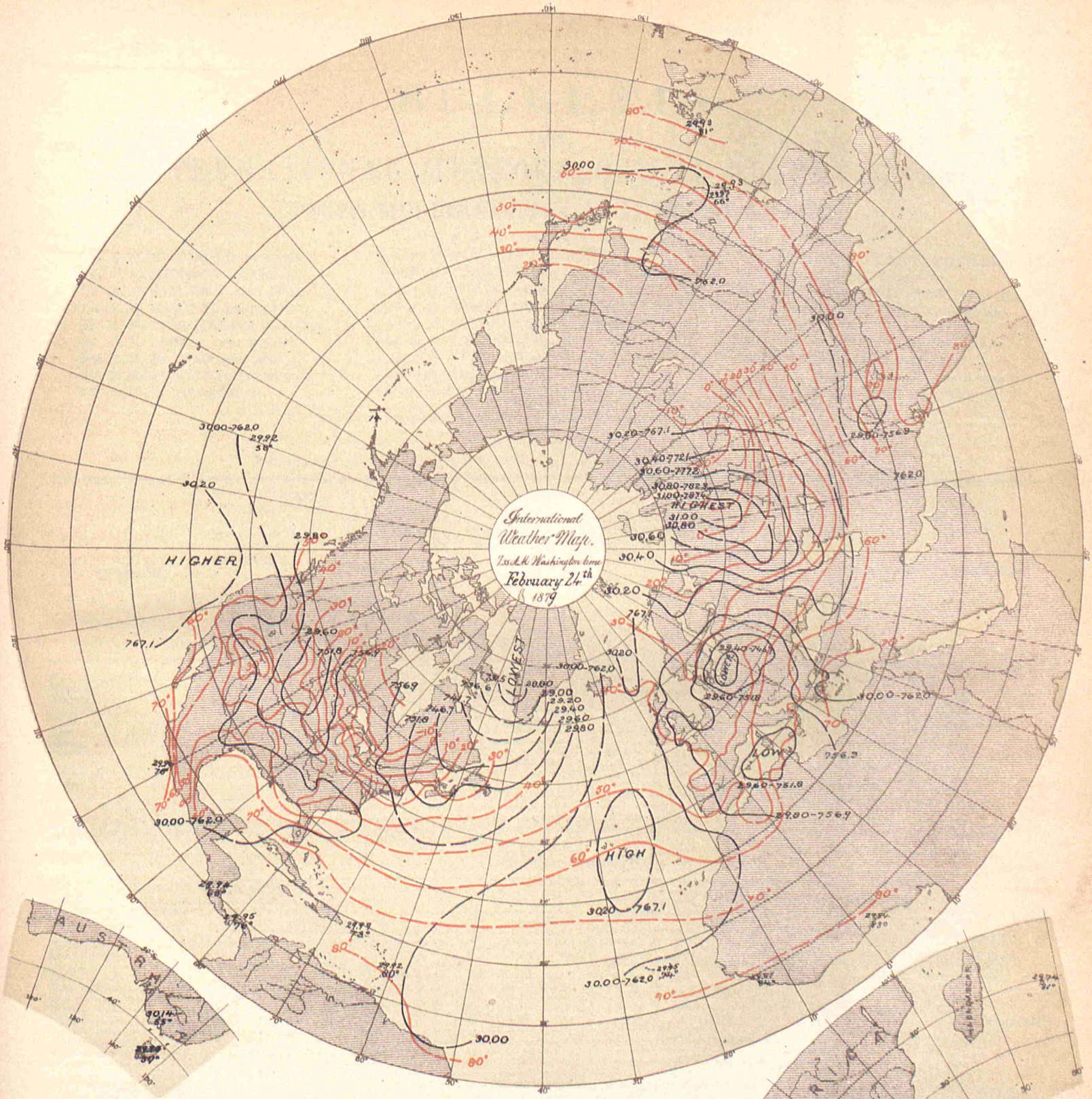
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 25, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.19	766.7	57.4	14.1	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	Cloudy.....	
Nemours	.....	.....	29.96	760.9	58.3	14.6	74	WNW	.....	.....	4	.....	8	.....	.....	0.354	9.0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.74	755.5	60.7	10.4	74	W	.....	.....	7	.....	10	.....	.....	0.957	24.3	Covered.....	Tourillere.
La Calle	.....	.....	29.61	752.1	53.2	11.8	67	NW	.....	.....	7	.....	10	.....	.....	0.197	5.0	Covered.....	Foufrede.
Tunis	.....	.....	29.65	753.2	55 2	12.9	42	W	.....	.....	8	.....	10	.....	.....	0.071	1.8	Covered.....	Jacques.
Sfax	.....	.....	29.80	757.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.84	758.0	42.1	5 6	50	W	.....	.....	6	.....	10	.....	.....	0.776	19.7	Snowing.....	Herbin.
Tebessa	.....	.....	29.81	757 1	37.8	3.2	73	W	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	29.82	757.4	42.3	5.7	85	NW	.....	.....	7	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	29.86	758.4	47.8	8.8	40	WNW	.....	.....	5	.....	2	.....	.....	0	0	Fair.....	Bertrand.
Biskra	.....	.....	29.82	757.3	60.1	15.6	36	NW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the cooperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	28.75	730.2	29.30	744.1	45.0	7.2	73	NE	.....	.....	6	.....	6	.....	.....	0.110	2.8	Raining	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.08	738.6	29.37	746.8	34.9	1.6	89	E	.....	.....	3	.....	10	.....	.....	0.016	0.4	.....	Dr. Wierzbiski
Eperies	28.88	733.5	29.77	756.1	43.2	6.2	76	N	.....	.....	2	.....	8	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.23	717.1	29.50	749.4	35.8	2.1	88	SW	.....	.....	1	.....	10	.....	.....	0.343	8.7	....	Andreas Rospini.
Hermannstadt	28.37	720.6	29.76	755.9	62.2	16.8	39	S	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.05	712.5	29.43	747.5	31.3	— 0.4	98	ENE	.....	.....	8	.....	10	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.86	733.0	29.87	758.6	42.1	5.6	82	S	.....	.....	1	.....	3	.....	.....	0.016	0.4	.....	Dr. T. Stanecki.
Pola	28.91	734.2	29.01	736.9	58.3	14.6	75	SE	.....	.....	8	.....	10	.....	.....	0.071	1.8	.....	I.R.Hydrographic Office.
Szathmar	29.08	738.5	29.53	750.0	60.8	16.0	48	E	.....	.....	3	.....	4	.....	.....	0	0	.....	Julius Csics, S. J.
Szegedin	29.20	741.8	29.48	748.7	63.0	17.2	46	S	.....	.....	4	.....	10	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.08	738.5	29.18	741.1	40.1	4.5	90	ENE	.....	.....	4	.....	10	.....	.....	1.056	26.8	Hail-storm..	P. Busin.
Vienna	28.84	732.4	29.57	751.0	35.2	1.8	77	NNE	.....	.....	3	.....	10	.....	.....	0.098	2.5	Snowing.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	10	.....	NE	0.138	3.50	.....	Prof. M. Passau.
Brussels	29.69	751.6	29.80	750.9	31.1	— 0.5	80	NNE	.....	.....	3	.....	8	.....	.....	0.035	0.9	.....	Royal Observatory
Furnes	29.79	756.7	29.82	757.3	34.3	1.3	95	NE	.....	.....	3	.....	10	.....	.....	0.165	4.2	Snowing.....	M. E. de Cae.
Maeseyck	29.68	753.8	29.80	757.0	32.0	0.0	93	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force (—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.16	766.1	30.26	768.6	37.0	2.8	.....	NW	4	1.8	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.21	767.3	30.23	767.8	39	3.9	.....	NNW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	William McNeil.
Armagh, Observatory	.....	.....	30.27	768.8	35.2	1.8	.....	N	5	2.2	.....	.....	6	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.16	766.1	35.8	2.1	.....	NNW	13	5.8	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Bolton, (Sharples)	.....	.....	30.14	765.5	34.5	1.4	.....	NNE	24	10.7	.....	.....	3	.....	.....	.....	.....	Squally.....	Thomas Mackereth.
Bradford, Yorkshire	29.68	753.9	30.08	764.0	33.9	1.1	.....	E	.....	.....	3	.....	10	.....	.....	0	0	Overcast....	J. McLandsborough.
Bridgetown, (Barbados)	29.87	758.7	29.90	759.4	81.5	27.5	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	30.01	762.2	36.0	2.2	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Snowing.....	H. Todd.
Cardington	.....	.....	29.99	761.7	35.0	1.7	.....	N	.....	.....	2	.....	8	.....	.....	.....	.....	Snowing.....	John McLaren.
Chatham, School M. E.	29.82	757.4	29.96	761.0	35.2	1.8	.....	S	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Corpl. Daly, R. E.
Dartmoor	28.60	726.9	30.04	763.0	30.0	1.1	.....	N	.....	.....	6	.....	7	.....	.....	.....	.....	Snowing.....	Alexander Watt.
Donaghadee	30.21	767.3	30.25	768.3	39	3.9	.....	N	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.84	757.9	29.86	758.4	34	1.1	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Snow & hail	J. Costello.
Falmouth, Observatory	29.89	759.2	30.13	765.3	35.5	1.9	.....	NNE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.66	702.6	29.97	761.2	77.0	25.0	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.66	753.4	29.69	759.2	85	29.4	.....	W ?	.....	.....	0?	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.22	767.6	40	4.4	.....	N	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.89	759.2	29.94	760.5	55.6	13.1	.....	W	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	30.01	762.2	30.22	767.6	36.8	2.7	.....	ENE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.97	761.2	29.97	761.2	34	1.1	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	Snowing.....	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.98	761.6	34.9	1.6	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing.....	The Staff, for G. B. Airy
Guernsey	29.76	755.9	29.99	761.7	35.5	1.9	.....	NNE	.....	.....	4	.....	8	.....	.....	Blank	Blank	Lightning...	Dr. S. E. Hoskins, F.R.S
Helston	29.78	756.4	29.90	759.4	48	8.9	.....	NE	.....	.....	2	.....	6k	.....	.....	0.25	6.3	Gloomy	M. P. Moyle.
Holyhead	30.14	765.5	30.19	766.8	38	3.3	.....	NNE	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.66	753.4	29.96	761.0	36.8	2.7	.....	NE	.....	.....	5	.....	9	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	29.96	761.0	30.00	762.0	35.7	2.1	.....	N	24	10.7	.....	.....	10	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	29.80	756.9	30.07	763.5	35.2	1.8	.....	N	.....	.....	2	.....	5	.....	.....	Blank	Blank	Misty.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.50	749.3	29.57	751.1	64	17.8	.....	SW	.....	.....	3	.....	4c	.....	.....	.....	.....	D. clouds.....	Sergt. H. J. Beckett, A. H. C.
Nairn	30.14	765.5	30.24	768.1	33	0.6	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	71.5	21.9	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.89	759.2	30.10	764.5	34.7	1.5	.....	N	.....	.....	4	.....	5k;d	.....	N	0.003	0.08	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.54	750.3	30.09	764.3	34.0	1.1	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.03	762.8	35	1.7	.....	N	.....	.....	4	.....	6	.....	.....	Blank	Blank	D. clouds.....	H. E. Bellamy.
Plymouth	30.00	762.0	30.08	764.0	37.3	2.9	.....	NE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	30.19	766.8	30.24	768.1	38	3.3	.....	NNE	.....	.....	3	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	30.00	762.0	30.17	766.3	36	2.2	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.27	768.8	36	2.2	.....	SE	4	1.8	.....	.....	2	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.07	763.8	71.2	21.8	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	W. H. Lyne.
Sheffield	29.92	760.0	30.25	768.3	35.2	1.8	.....	NE	.....	.....	1	.....	6	.....	.....	0.02	0.5	D. clouds.....	W. F. Cooper.
Silloth Rectory	30.19	766.8	30.22	767.6	39.2	4.0	66	W	.....	.....	6	.....	0	.....	.....	0	0	Blue sky.....	Francis Redford, A. M
Stonyhurst Observatory	29.74	755.4	30.15	765.8	35.0	1.7	.....	N	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stratfield Turgiss	29.79	756.7	30.02	762.5	36.3	2.4	.....	N	.....	.....	3	.....	6	.....	.....	.....	.....	Squally.....	C. H. Griffith, F. R. S.
Thurso	30.19	766.8	30.26	768.6	40	4.4	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	30.12	765.0	40	4.4	.....	N	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	30.23	767.8	30.26	768.6	38.3	3.5	.....	NNE	14	6.3	.....	.....	2	.....	.....	.....	.....	Hazy	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.82	757.4	29.86	758.4	84.8	29.3	34	NW	21	9.4	.....	0	2	.....	.....	0	0	Lightning...	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	56.0	13.3	78	S	.....	.....	2	.....	1k	.....	.....	0.11	2.8	Starlight....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.28	769.1	37.8	3 2	.....	NE	.....	.....	3	.....	7k	S	.....	0.02	0.5	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.48	748.8	29.67	753.6	79.2	26.2	85	ESE	20.5	9.2	.....	4	4	.....	ESE	0.02	0.5	Squally.....	C. Meldrum.
Melbourne, Observatory	29.78	756.4	29.87	758.7	67.0	19.4	45	NE	10	4.5	.....	.....	0	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.26	768.6	43	6.1	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	30.23	767.8	41	5.0	.....	SE	.....	.....	2	0	3	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force (—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Brig Alliance, N. 28° 09', W. 28° 31'	.....	.....	30.21‡	767.3‡	67	19.4	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds.....	Capt. W. Scott.
S. S. Amanda, N. 7° 36', E. 76° 53'	.....	.....	29.84‡	757.9‡	84.5	29.2	.....	ENE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Capt. B. Boyes.
Barque Belle Isle, N. 19° 00', W. 81° 25'	.....	.....	29.92	760.0	80	26.7	.....	NE	.....	.....	5	.....	4	.....	.....	3	NE	.....	Capt. A. J. Brown.
Ship British Commodore, N. 47° 30', W. 18° 50'	.....	.....	30.34	770.6	51	10.6	.....	N	.....	.....	2	.....	1	.....	.....	3	NE	Blue sky.....	Capt. J. W. Thorne.
——City of Agra, S. 17° 01', W. 22° 50'	.....	.....	30.02‡	762.5‡	79	26.1	.....	ENE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	Capt. Thos. Young.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
——Denbighshire, S. 46° 53,' W. 28° 09'	.....	.....	30.40‡	772.1‡	54	12.2	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Capt. H. Murdoch.
Barque Mertole, N. 35° 48', W. 10° 35'	.....	.....	30.09‡	764.3‡	56.2	13.4	.....	NNW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	Capt. E. W. Turner.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow
——Strathleven	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. W. Pearson.
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. McMontry,
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER
Punta Arenas												4ck				0	0		Mr. Ansart.
San José	26.21	665.7	29.93	760.2	62.6	17.0	77	NE			1								Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.04	763.0	30.09	764.2	29.7	— 1.3	82	ENE			4		10					Snowing
Fanöe	30.04	763.1	30.06	763.6	30.2	— 1.0	88	ENE			6		10					
Godthaab, (Greenland)	29.32	744.8	29.37	745.9	22 6	— 5.2		Calm			0		1					
Stykkisholm, (Iceland)											2		8					
Thorshavn, (Faröe)	30.22	767.5	30.25	768.4	38.1	3.4	63	SSW			6		10					
Vestervig	29.95	760.8	30.12	765.1	28.6	— 1.9	94	NE										

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.5	29.86	758.5	33.4	0.8	96	NE			3	5		NE	0.008	0.2	Cloudy	Collignon, Director.
Amiens, Normal School	29.72	754.9	29.84	757.8	34.2	1.2	78	NE			1	2		E	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.19	741.5	29.27	743.5	36.9	2.7	55	N			6	10			0	0	Threatening	M. Giraud, Director.
Bar-sur-Seine	29.06	738.0	29.65	753.0	30.9	— 0.6	70	ENE			1	10		ENE	0.106	2.7	Covered	C. Saillard, Director.
Beauvais, Normal School	29.53	750.1	29.83	757.7	33.4	0.8	73	N			2	10		NE	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	28.62	727.0	29.55	750.5	29.5	— 1.4	62	N			2	10			0	0	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.58	725.9	29.47	748.4	29.7	— 1.3	100	NW			1	kn	W	NW	0	0		M. Marlot, Director.
Bourges, Normal School	29.11	739.3	29.68	753.9	31.5	— 0.3	83	N			3	10	N	N	0	0	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.69	754.2	29.94	760.4	42.8	6.0	66	NE			3	7		NE	0	0		M.de Rermaree, Director
Carcassonne, Normal School	29.19	739.1	29.52	749.8	38.8	3.8	60	NW			3	2	NW	W	0	0	Slightlycl'dy	September, Director.
Caen, Normal School	29.81	757.1	29.89	759.1	36.1	2.3	46	NE			3	10			0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.13	740.0	29.72	755.0	31.1	— 0.5	92	N			3	10			0	0	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l																		T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.15	714.9	29.56	750.7	27.7	— 2.4	79	NW			2	10			0	0		Alluard, Director.
Commercy, Normal School	28.77	730.8	29.69	754.1	28.8	— 1.8	100	N			3	10+n		N	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.02	711.7	29.16	740.7	32.0	0.0	81	NW			6	5		NW	0	0	¾ covered	M. Kina, Director.
Grenoble, Normal School	28.60	726.3	29.35	745.4	29.5	— 1.4		NW			4	10n		N	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.61	752.2	29.84	757.9	34.2	1.2	88	N			3	5			0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.50	749.2	29.82	757.4	35.4	1.9	96	E			4	8		NE	0.010	0.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.84	758.0	29.94	760.5	38.8	3.8	76	NNE			7			NE	0	0		Baudry, Director.
Lorient, Naval Observatory	28.55	725.1	29.48	748.8	30.0	— 1.1	88	NE			2	10					Snowing	Lt T. Carré, Director.
Mâcon, Normal School												n		NE			Snowing	M. Galxin, Director
Mirecourt, Normal School	28.68	728.4	29.76	756.0	28.0	— 2.2	46	SW			3	10		E	0	0	Covered	M. Barbier, Director.
Nismes N rmal School	29.10	739.2	29.31	744.4	41.7	5.4	78	NE			4	10	N	N			Snowing	Boyer, Director.
Privas, Normal School	28.32	719.3	29.41	747.1	30.2	— 1		N			3							M. Cantier, Director.
Puy de Dome (Summit) Obs.	24.48	621.9			11.1	—11.6	100	N			8				0	0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.74	755.5	29.78	756.3	34.9	1.6	73	NE			2	10	NE	NE	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.76	755.8	29.84	758.0	37.4	3.0	63	NE			2	2		NNE	0	0	Slightly cl'dy	Frere Lucard, Director.
Saint Malo (Port) Obs'	29.88	759.0	29.91	759.7	37.4	3.0	63	NNE			4	5	NNE	NNE	0	0	Cloudy	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.60	751.9	29.77	756.1	33.8	1.0	77	NNE			2			NNE	0	0		E. Renou, Director.
Tarbes, Normal School	28.50	723.8	29.59	751.6	42.8	6	70	W			6	10					Snowing	T. Huguet, Director.
Versailles Observatory	29.26	743.3	29.76	755.8	32.4	0.2		NE			7	10			0	0	Squally	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	28.85	732.7	29.67	751.1	29.8	— 1.2	88	N			3	10			0.08	2.	Covered	M. Gausserand, Director.
SUB-SERIES.															0.04	1.		L'Abbé Marchesi.
Fort de France, Martinique	29.88	759.0	29.91	759.7	75.9	24.4						10			Inap.	Inap.		Mr. Jays.
Lyons Obs'y, (Park Station)			29.45	748.0	29.5	— 1.4	72	NNW			8							The Staff.
Marseilles, Observatory												5		W	0	0		M. Cave.
Mont-Louis	24.21	614.9	29.52	749.9	22.1	— 5.5	56	W			4	10					Raining	Dr. A. Niepce, Jr.
Nice			29.13	739.8	44.2	6.8	77	NW			1	10		NNE	Inap	Inap.	Light snow.	Marié Davy, Director.
Paris, Montsouris Obs'y	29.48	748.9			32.4	0.2	79	N			4	2		NW	0	0		Dr. Fines.
Perpignan	29.30	744.3	29.41	747.0	41.9	5.5	55	NW	39.1	17.5								M. Baylac.
Pic du Midi, (Summit,) H. P.												10			0.996	25.3	Snowy	Gen'l de Nansouty.
Pic du Midi, (Plantade,) H. P.	21.83	554.5			17.6	— 8.0		NNW			1	9			0	0		M. Mercadier Juller.
Toulouse, Observatory	28.85	732.9	29.56	750.9	36.0	2.2	71	NNW			3	5		NE	0.110	2.8		Cousin-Marquet.
Tours	29.56	750.9	29.76	755.9	33.8	1.0	60	NE			4	5		NE	0	0	Covered	Marc Dechevrens, S. J.
Zi-Ka-Wei, (near Shanghai)	30.08	764.0	30.11	764.7	44.4	6.9	99	ESE	15.4	6.9		10k		ESE	0	0	Covered	

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.79	731.3	29.62	752.4	26.6	— 3.0	89	NE			8		10	E		0.118	3.0	Snowing	Prof. Dr. Hoh.
Berlin	29.71	754.6	29.89	759.2	33.8	1.0	83	W			2		10			0.039	1.0		Prof. Arndt.
Breslau	29.38	746.3	29.91	759.7	31.5	— 0.3	78	ENE			2		10			0	0		Royal University Obs'y
Carlsruhe	29.08	738.5	29.52	749.7	27.3	— 2.6	94	NE			3		10			0.512	13.0	Heavy snow	Albert Senx.
Cassel	28.97	735.8	29.57	751.0	28.8	— 1.8	80	NE			2		10			0.239	6.08	Snowing	Dr. H. Möhl.
Crefeld	29.63	752.5	29.79	756.6	33.4	0.8	83	NE			4		9			0	0		Director Lose.
Emden					33.1	0.6	90	NNE			5		10			0.12	3.		Prof. Prestel.
Frankfort on the Main	29.31	744.4	29.68	753.8	30.4	— 0.9		NNE			5		10			0	0		Physical Society.
Friedrichshafen	27.93	709.5	29.30	744.2	25.3	— 3.7	76	NE			6		10	NE		0.016	0.4	Light snow	M. Wilhelm.
Hamburg	29.80	757.0	29.88	758.9	33.3	0.7	92	NE			3		10			0.181	4.6	Foggy	Captain F. Hegemann.
Kiel	29.92	760.0	29.94	760.4	32.5	1.8	93	NE			6		10			0.108	2.74	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.95	760.8	30.04	762.9	35.2	0.3	86	SE			2		8			0	0		Prof. E Luther.
Köslin			29.95	760.6	35.2	1.8		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.42	747.2	29.85	758.3	31.3	— 0.4	76	ENE			2		10	NE		0	0		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.98	761.6	30.03	762.8	33.8	1 0	77	NE			2		9cs						Skalweit.
Neufahrwasser	30.03	762.7	30.04	763.1	35.8	2.1	89	NE			2		10			0	0		A. Lothes.
Posen	29.61	752.1	29.91	759.7	33.4	0.8	74	SE			5		10			0.102	2.6	Snowing	Dr. Magener.
Strassburg (in Alsace)	28.97	735.9	29.54	750.4	27.7	— 2.4	87	NNE			6		10					Sleeting	Imp. University Observatory.
Stuttgart	28.56	725.3	29.47	748.6	25.7	— 3.5	85	N			5		10			0.362	9.2	Snowing	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	27.92	709.2	29.49	749.0	26.4	— 3.1	96	NE	9	4			10			0.094	2.4	Snowing	Dr. Van Bebber.
Wustrow, Naval School	29.91	759.8	29.94	760.4	31.6	— 0.2	100	NE			5		10s			0.118	3.0		E. Schütz, Dir.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.5	30.05	763 3	68.2	20.1		S			4.0							⅛ Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.91	759.6	29.96	760.9	74.9	23.8	35	NW	14	6.3						0	0	Blue sky	
Deesa	29.40	746.7	29.87	758.6	86.2	30.1	20	NNW	7.5	3.4						0	0	Blue sky	
Bombay	29.85	758.2	29.89	759.2	79.5	26.4	58	NW	13	5.8			2	W		0	0	D. clouds	
Lahore	29.23	742.4	29.98	761.4	77.9	25.5	39	Calm	2.4	1.1			0			0	0	Blue sky	
Belgaum	27.32	693.8	29.82	757.5	81.9	27.7	50	W	18	8.0			2		S			Showery	
Roorkee	29.01	736.8	29.92	760.0	74.4	23.6	37	NW	1	0.4			0			0	0	Blue sky	
Agra	29.36	745.7	29.94	760.4	71.7	22.1	31	NW								0	0		
Nagpur	28.83	732.3	29.87	758.8	81.6	27.6	50	Calm	2.2	1.0			8		E	0	0	Gloomy	
Lucknow	29.53	750.0	29.90	759.5	79.3	26.3	40	NW	0.4	0.2						0	0	Blue sky	
Allahabad	29.58	751.4	29.89	759.3	80.3	26.8	40	NNE	1.3	0.6			2			0	0	D. clouds	
Patna	29.70	754.4	29.88	759.0	81.5	27.5	77	W	0.6	0.3			0			0	0	Blue sky	
Hazaribagh	27.86	707.8	29.90	759.4	73.0	22.8	50	WSW	7.4	3.3			2			0	0		
Cuttack	29.85	758.2	29.93	760.3	80.9	27.2	45	W	1.5	0.7			8			0	0	Thunder	
Calcutta (Alipore)	29.85	758.2	29.87	758.8	78.7	25.9	60	N	2.0	0.9			5	W	W	0	0	D clouds	
Goalpara	29.44	747.7	29.83	757.7	76.5	24.7	35	W	1.9	0.8			0			0	0	Blue sky	
Chittagong	29.85	758.3	29.95	760.6	77.0	25.0	72	Calm	5.4	2.4			0			0	0	Misty	
Sibsagar	29.53	750.1	29.88	758.8	70.0	21.1	74	ENE	1.0	0.4			0			0	0	Blue sky	
Jubbulpore	28.52	724.5	29.92	760.0	69.7	20.9	45	E	6.5	2.9			8	NE		0.53	13.5	Thunder-storm	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	28.74	729.9	29.15	740.4	48.0	8.9	72	E	18.6	8.3	.....	.....	10	.....	.....	0.130	3.3	.....	Prof. Giovanni Clodig.
Padua	28.90	734.0	29.01	736.8	48.2	9.0	89	E	26.6	11.9	.....	.....	10	.....	.....	0.811	20.6	.....	Prof. Dott. Lorenzoni
Milan	28.56	725.3	29.07	738.4	34.5	1.4	93	WNW	.....	.....	2	.....	10	.....	.....	0.406	10.3	.....	Prof. Schiaparelli.
Moncalieri	28.22	716.9	29.15	740.3	35.4	1.9	91	N	2.5	1.1	.....	.....	10	.....	.....	0.512	13.0	.....	Prof. P. F. Denza.
Mondovi	27.14	689.3	29.08	738.6	33.3	0.7	87	WNW	.....	.....	2	.....	10	.....	.....	0.728	18.5	.....	Prof. D. C. Bruno.
Genoa	28.79	731.2	28.98	736.2	40.8	4.9	64	N	13.0	5.8	.....	.....	10	SE	.....	0.810	20.8	.....	Prof. G. M. Garibaldi.
Florence	28.67	728.1	28.92	734.6	52.3	11.3	63	SW	.....	.....	2	.....	10	SE	.....	0.142	3 6	.....	Cav. F Meucci.
Leghorn	28.82	732.1	28.91	734.2	51.1	10.6	81	E	11.9	5.3	.....	.....	10	S	.....	0.370	9.4	.....	Prof. P. Monte.
Pesaro	28.91	734.2	28.95	735.4	49.6	9.8	80	SW	9.4	4.2	.....	.....	10	.....	.....	0.276	7.0	.....	Prof. Luigi Guidi.
Rome	28.89	733.9	29.07	738.4	50.9	10.5	76	S	32.2	14.4	.....	.....	10	.....	.....	0.409	10.4	.....	Prof. P S. Ferrari.
Lecce	29.35	745.5	29.61	752.0	63.0	17.7	40	SSW	37.4	16.7	.....	.....	10	SW	.....	0.016	0.4	.....	Prof. O. De Giorgi.
Cagliari	29.20	741.6	29.39	746.5	50.2	10.1	41	W	.....	.....	6	.....	10	W	.....	0.843	21.4	.....	Prof. A. Pacinotti.
Cosenza	28.65	727.7	29.54	750.3	60.3	15.7	78	SW	9.8	4.4	.....	.....	9	.....	.....	0.346	8.8	.....	Prof. D. Conti.
Palermo	29.29	743.9	29.54	750.4	61.4	10.8	62	W	19.9	8.9	.....	.....	10	W	.....	0.028	0.7	.....	Prof. G. Cacciatore.
Syracuse	29.58	751.4	29.66	753.3	59.5	15.3	43	S	19.9	8.9	.....	.....	6	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	28.71	729.3	29.27	743.4	51.1	10.6	84	SSW	11.2	5.0	.....	.....	10	.....	.....	0.134	3.4	.....	Prof. P. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.09	764.8	30.11	764.8	44.9	7.2	85	NNE	5.0	2.3	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.99	759.2	30.10	764.5	48.3	9.1	80	N	2.7	1.2	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.04	763.0	30.11	764.8	47.3	8.5	95	SE	2.0	0.9	.....	.....	10n	.....	.....	0.175	4.44	Raining	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	1	.....	6	.....	W	0	0	½ clouded	P. Ceballos.
Guadalajara	25.01	635.2	30.12	765 1	41.4	5.2	51	NW	.....	.....	1	2c	0	SW	.....	0	0	Clear	Prof. L. Perez.
Leon	24.37	619.0	29.99	761.8	55.0	12.8	70	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Fine	Prof. M. Leal
Mexico, Central Obs'y	22.98	583.8	30.14	765.6	43.5	6.4	82	Calm	.....	.....	0	0	1s	.....	.....	0	0	Bright	The Staff.
Pabellon, (Aguascalientes					49.8	9.9	66	Calm	.....	.....	1	0	0	.....	.....	0	0	Foggy	M. V. de Leon, M. E.
Tlacotalpam	29.87	758.8	29.89	759.1	67.1	19.5	90	SSW	.....	.....	1	3	0	W	.....	0	0	Foggy	M. M. Cházaro.
San Luis Potosi	24.09	611.9	30.18	766.7	48.0	8.9	75	SE	.....	.....	1	0	0	.....	.....	0	0	½ clouded	G. Barroeta, M. D.
Vera-Cruz	29.87	758.7	29.90	759.4	69.8	21.0	91	SW	.....	.....	.....	2ck	4ks	.....	.....	0	0	.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.32	592.2	30.07	763.7	37.4	3.0	85	E	0.4	0.2	.....	.....	.....	.....	.....	0.043	1.10	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.34	719.8	30.12	765.0	70.7	21.5	63	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.80	756.4	29.99	761.8	70	21.1	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Cloudy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 582 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.2	29.85	758.2	33.8	1.0	.....	NNE	.....	.....	3	.....	.....	.....	.....	0.020	0.5	.....	
Groningen	29.87	758.7	29.93	760.1	32.4	0.2	.....	NE	.....	.....	4	.....	.....	.....	.....	0.047	1.2	.....	
Helder	29.93	760.2	29.93	760.2	32.4	0.2	.....	NNE	.....	.....	4	.....	.....	.....	.....	0.063	1.6	.....	
Hellevoetsluis	29.84	757.9	29.84	757.9	32.9	0.5	100	NE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.81	757.2	29.86	758.4	32.9	0.5	88	NNE	.....	.....	4	.....	10	.....	.....	0.004	0.1	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.14	765.5	30.19	766.9	32.4	0.2	71	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.23	767.8	30.27	768.8	29.8	— 1.2	69	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Christiania	30.09	764.3	30.25	768.3	29.8	— 1.2	57	E	11	5	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.21	767.3	30.25	768.4	27.0	— 2.8	83	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.15	765.7	30.34	770.6	55.9	13.3	73	NE	12.5	5.6	.....	.....	5	.....	.....	0.177	4.5	.....	Dr. J. A. Sampaio.
Campo Major	28.87	733.4	29.94	760.4	42.8	6.0	95	WNW	12.5	5.6	.....	.....	8	WNW	.....	0.016	0.4	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.11	764.9	30.20	767.1	60.4	15.8	53	E	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.63	752.6	30.00	762.0	47.3	8.5	78	NW	16.1	7 2	.....	.....	8	.....	.....	0.094	2.4	Raining	The Staff.
Ponta Delgada, (Azores)	30.19	766.7	30.26	768.5	58.6	14.8	60	N	22.4	10.0	.....	.....	4	.....	.....	0.130	3.3	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 8 m., p. m.

Portuguese Naval Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. P. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.64	752.8	83.3	28.5	.....	WSW	.....	.....	2	.....	0	.....	.....	1	WSW	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, Porto Praya, Cape Verd Islands	.....	.....	29.96	761.0	74.1	23.4	.....	NNE	.....	.....	2	.....	1	.....	NNE	1	NNE	Blue sky	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.78	756.3	86.9	30.5	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	Blue sky	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	29.95	760.8	66.6	19.2	.....	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	J. M. T. Guimarães, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	26.55	760.6	29.99	761.8	34.2	1.2	75	SSE	4	2	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.60	751.9	30.04	763.0	34.0	1.1	87	SSW	4	2	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.72	754.9	29.97	761.3	29.8	— 1.2	88	NNE	2	1	.....	.....	10n	.....	.....	.....	.....	Light snow.	Prof. Dr. Weihrauch.
St. Petersburg	29.87	758.6	29.88	759.0	28.6	— 1.9	90	NW	9	4	.....	.....	8n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.41	747.1	30.06	763.6	43.0	6.1	81	ESE	4	2	.....	.....	10c;ks; s;n]	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.07	763.7	30.14	765.5	55.2	12.9	74	SSW	9	4	.....	.....	5cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	30.30	769.6	30.32	770.1	51.8	11.0	77	SE	4	2	.....	.....	2	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.55	750.6	30.12	765.1	35.6	2.0	93	S	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.19	766.7	30.40	772.1	40.5	4.7	65	SE	31	14	.....	.....	6	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	30.06	763.4	30.08	763.9	21.9	— 5.6	93	NE	18	8	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	29.04	737.6	30.50	774.7	48.6	9.2	53	S	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.94	786.0	30.86	783.9	22.5	— 5.3	76	ESE	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Krotkowo*	30.34	770.6	30.88	784.3	4.3	15.4	65	S	9	4	.....	.....	10	.....	.....	.....	.....	Light clouds	Cand. Fatjanow.
Kasan	30.49	774.5	30.80	782.2	5.5	—14.7	61	SSE	9	4	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.89	759.3	30.97	786.7	9.9	—12.3	48	W	7	3	.....	.....	6cs;ck 8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.42	772.7	30.67	779.1	21.2	— 6.0	74	NE	20	9	.....	.....	10	.....	.....	.....	.....	.....	
Tashkend	29.80	731.6	30.66	778.7	23.2	— 4.9	93	S	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.34	770.7	30.94	785.9	—19.8	—28.8	75	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.23	767.8	30.56	776.3	—10.3	—23.5	71	NW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.87	758.8	30.02	762.4	30.4	— 0.9	86	SW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.18	766.5	30.28	769.0	13.5	—10.3	57	N	31	14	.....	.....	3k	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.32	744.7	29.43	747.5	46.6	8.1	42	WNW	8.5	3.78	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	29.70	754.3	29.76	755 8	39.6	4.2	94	NW	2.1	0.93	.....	.....	10	.....	.....	0.535	13.6	Snowing	Prof. Manuel de Naveral
Burgos, Met. Obs'y	26.68	677.7	.....	.....	32.4	0.2	93	N	2.7	1.21	.....	.....	10	.....	.....	0.079	2.0	Covered	Domingo Martin y Perez
Madrid, Royal Observatory	27.43	696.8	.....	.....	39.9	4.4	61	W	20.9	9.34	.....	0	5	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.56	750.9	29.72	754.8	57.0	13.9	43	WNW	6.1	2.72	.....	2	4	E	.....	0	0	Light clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.91	734.4	29.85	758.2	35.8	2.1	94	NE	9.4	4.2	.....	.....	10	.....	.....	0.469	11.9	Snowing	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.3	30.00	762.0	62.0	16.7	88	ENE	1.6	0.7	.....	0	1k	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.83	757.9	29.89	759.3	81.9	27.7	77	SSE	5.6	2.5	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.90	759.6	30.01	762.1	53.4	11.9	55	WNW	17.6	7.9	.....	0	8	.....	W	0.031	0.8	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.87	758.6	29.96	760.9	77.0	25.0	74	S	0	0	.....	2k	1k	S	S	0.020	0.5	Clear	Leonardo de Tejeda, Ch'f. Eng.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.22	767.6	30.26	768.6	24.8	— 4.0	.....	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	30.21	767.4	30.26	768.7	22.8	— 5.4	96	NE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Hernosand	30.19	766.7	30.24	768.0	25.9	— 3.4	78	N	.....	.....	4	.....	9	.....	.....	0.248	6.3	.....	
Stockholm	29.97	761.3	30.15	765.8	27.7	— 2.4	92	N	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Wisby	30.01	762.3	30.07	763.8	27.8	— 2.6	87	ENE	.....	.....	6	.....	10	.....	.....	0.102	2.6	.....	
Sub-Series.																			
Upsala	30.10	764.4	30.17	766.3	26.6	— 3.0	85	N	16.1	7.2	.....	.....	10	.....	.....	0.006	0.15	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	27.91	709.0	29.44	747.8	27.1	— 2.7	83	NNE	.....	.....	8	.....	10	.....	.....	.....	.....	Snowing	The Observatory.
Zurich	27.76	705.2	29.46	748.2	25.9	— 3.4	90	NW	.....	.....	1	.....	10	.....	.....	0.291	7.4	Snowing	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —16.7 mm.; Thermometer, —7.7 ent.; Relative Humidity, +15 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.11	764.9	68.0	20.0	41	SE	7	8.0	.....	.....	10	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.74	755.5	61.2	16.2	.....	S	.....	.....	8	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.07	763.8	30.19	766.8	68.7	20.4	68	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.88	758.9	29.94	760.5	— 4.5	—20.3	82	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.75	755.6	30.09	764.3	— 2	—18.9	.....	N	1	0.4	.....	.....	8s	.....	NW	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29.85	758.2	29.92	760.0	2	—16.7	83	SW	6	2.7	.....	0	0	.....	.....	0.19	4.8	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.84	757.9	29.89	759.2	10	—12.2	92	W	4	1.8	.....	0	5s	.....	Calm	0.225	5.72	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.07	763.8	—19.5	—28.6	100	NW	.....	.....	1	0	Fog	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	29.89	759.2	29.91	759.7	5	—15.0	86	W	25	11.2	.....	2cs	0	W	.....	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.99	761.7	30.08	763.5	8.8	—13.7	79	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.49	749.0	30.49	774.4	—20	—33.9	100	N	20	8.9	.....	Haze	5n	N	N	0.130	3.30	Hazy	James Stewart.
Granton, Ontario	28.58	725.9	29.76	755.9	13	—10.6	.....	E	.....	.....	2	.....	10n	.....	.....	0.10	2.5	Light snow	James Grant.
*Halifax, N. S	29.82	757.4	29.96	761.0	13	—10.6	88	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	F. Allison, M. A.
Hamilton, Ontario	29.49	749.0	29.88	758.9	19.7	— 6.8	92	NE	.....	.....	2	10cs	0	NE	.....	0	0	Overcast	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.66	753.4	30.04	763.0	— 3	—19.4	83	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.80	756.9	29.84	757.9	17.2	— 8.2	90	W	8	3.6	.....	7k	.....	W	.....	.....	.....	Snow squalls	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.90	759.4	30.13	765.3	— 6	—21.1	88	W	3	1.3	.....	0	Fog	.....	.....	0	0	Foggy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.17	740.9	29.93	760.2	5	—15.0	83	E	13	5.8	.....	.....	10n	.....	E	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.12	739.6	29.94	760.5	4.0	—15.6	83	NE	.....	.....	.....	.....	10n	.....	.....	0	0	Overcast	J. F. Jeffers, B. A.
Port Dover, Ontario	29.06	738.1	29.81	757.2	15	— 9.4	82	NE	7	3.1	.....	.....	10n	.....	NE	Inap.	Inap.	Light snow	H. Morgan.
Port Hastings, N. S	29.84	757.9	29.89	759.2	15.1	— 9.4	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.06	738.1	29.75	755.6	16	— 8.9	90	NE	15	6.7	.....	.....	10n	.....	E	0.02	0.5	Light snow	M. Payne.
*Quebec, Quebec	29.74	755.4	30.10	764.5	— 4	—20.0	83	W	.....	.....	3	0	0	.....	.....	0.03	0.8	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.55	750.6	30.08	764.0	—12	—24.4	80	Calm	0	0	.....	0	5s	.....	NW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.05	763.3	4	—15.6	77	NW	.....	.....	3	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.87	758.7	30.05	763.3	6	—14.4	76	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.06	738.1	29.83	757.7	13	—10.6	92	E	8	3.6	.....	.....	10s	.....	.....	0.08	2.0	Cloudy	K. Stewart.
Stayner, Ontario	29.03	737.3	29.87	758.7	11	—11.7	88	SE	9	4.0	.....	.....	10n	.....	SE	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.41	721.6	29.78	756.4	12.0	—11.1	94	E	15.5	6.9	.....	.....	10s	.....	.....	0	0	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	29.79	756.7	29.83	757.7	19	— 7.2	74	SW	17	7.6	.....	0	2ks	.....	W	0.05	1.3	Fair	T. C. Hill.
*Toronto, Ontario	29.47	748.5	29.88	758.9	19	— 7.2	90	E	15	6.7	.....	.....	10ks	.....	SE	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	29.88	758.9	29.98	761.5	12.0	—11.1	90	W	14	6.3	.....	8k	0	.....	.....	Inap.	Inap.	Cloudy	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	28.0	— 2.2	100	SW	.....	.....	.....	10c	10s	.....	SW	0.03	0.8	Cloudy	John Delany.

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.85	758.2	30.10	764.5	12	—11.1	70	Calm	0	0	.....	8cs	Sm'e	W	.....	0	0	Dense smoke	
Alpena, Michigan	29.10	739.1	29.77	756.1	18	— 7.8	84	SE	14	6.3	.....	.....	10n	.....	Calm	0.02	0.5	Light snow..	
Atlanta, Georgia	28.76	730.5	29.91	759.7	49	9.4	77	S	11	4.9	.....	2c	Sm'e	Calm	Calm	0	0	Clear	
Atlantic City, New Jersey	30.02	762.5	30.04	763.0	32	0.0	79	SE	23	10.3	.....	.....	10s	.....	SE	0	0	Cloudy	
Augusta, Georgia	29.84	757.9	30.01	762.2	45	7.2	68	SW	4	1.8	.....	Haze	2s	Calm	Calm	0	0	Fair	
Baltimore, Maryland	29.97	761.2	30.02	762.5	31	— 0.6	89	NE	7	3.1	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain...	
Barnegat, New Jersey	30.02	762.5	30.04	763.0	30	— 1.1	89	E	23	10.3	.....	.....	10s	.....	E	0.01	0.3	Cloudy	
Bismarck, Dakota	28.24	717.3	30.09	764.3	— 6	—21.1	100	N	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Boerne, Texas	28.25	717.5	29.55	750.6	53	11.7	100	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.36	694.9	30.32	770.1	35	1.7	70	SW	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Boston, Massachusetts	30.01	762.2	30.18	766.6	12	—11.1	61	Calm	0	0	.....	8ck	2s	NW	Calm	0	0	Cloudy	
Brackettville, Texas	28.60	726.4	29.60	751.8	63	17.2	57	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.92	734.6	30.04	763.0	— 6	—21.1	89	N	28	12.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Brownsville, Texas	29.75	755.6	29.82	757.4	66	18.9	95	S	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.04	737.6	29.78	756.4	16	— 8.9	66	NE	14	6.3	.....	10cs	Haze	Calm	Calm	0	0	Cloudy	
Burke, Arizona	29.81	757.2	.....	.....	49	9.4	Inap.	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.81	757 2	30.14	765.5	— 1	—18.3	85	Calm	0	0	.....	1c	2s	Calm	Calm	0	0	Fair	
Cairo, Illinois	29.26	743.2	29 63	752.6	58	14.4	64	S	14	6.3	.....	0	8s	.....	S	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.11	637.8	29.91	759.7	55	12.8	17	E	4	1 8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Camp Verde, Arizona	.....	.....	.....	.....	40	4.4	48	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.40	696.0	29.97	761.2	33	0.6	69	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.04	763.0	30.05	763.3	48	8.9	85	S	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Henry, Virginia	29.92	760.0	29.93	760.2	48	8.9	78	S	16	7 2	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.03	762.8	30.04	763.0	50	10.0	93	SW	11	4.9	.....	0	Haze	.....	SW	0	0	Hazy	
Cape May, New Jersey	29.94	760.5	29.97	761.2	37	2.8	80	E	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Castroville, Texas	28.95	735.3	29.65	753.1	48	8.9	85	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.91	759.7	29.96	761.0	50	10.0	86	SW	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Cheyenne, Wyoming	29.78	604.0	29.72	754.9	37	2.8	31	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	28.82	732.0	29.51	749.5	34	1.1	90	N	2	0.9	.....	.....	10n	.....	Calm	0.13	3.3	Light rain...	
Cincinnati, Ohio	28.94	735.1	29.57	751.1	60	16.0	66	S	6	2.7	.....	.....	10s	.....	SW	0.04	1.0	Threatening	
Cleveland, Ohio	28.90	734.0	29.63	752.6	31	— 0.6	100	SE	10	4.5	.....	.....	10n	.....	Calm	0.29	7.4	Light rain...	
Coleman City, Texas	27.81	706.4	29.44	747.8	50	10.0	32	SW	18	8.0	.....	2c	0	Calm	.....	0	0	Fair	
Columbus, Ohio	28.73	729.7	29.56	750.8	37	2.8	81	SE	6	2.7	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Corpus Christi, Texas	27.78	705.6	29.43	747.5	49	9.4	37	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.16	740.7	29.61	752.1	54	12.2	74	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	28.94	735.1	29.58	751.3	33	0.6	89	N	6	2.7	.....	.....	10s	.....	Calm	0.08	2.0	Threatening	
Deadwood, Dakota	25.25	641.3	.....	.....	3	—16.1	73	NW	6	2.7	.....	.....	10n	.....	Calm	0.18	4.6	Light snow..	
Decatur, Texas	28.42	721.9	29.56	750.8	56	13.3	96	SW	9	4.0	.....	.....	10s	.....	SW	0	0	Cloudy	
Denison, Texas	28.75	730.2	29.52	749.8	56	13.3	81	S	9	4.0	.....	2cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.55	623.6	29.77	756.1	46	7.8	33	NW	8	3.6	.....	2c	0	Calm	.....	0	0	Fair	
Des Moines, Iowa	28.82	732.0	29.74	755.4	23	— 5.0	86	N	13	5.8	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Detroit, Michigan	28.93	734.8	29.62	752.3	22	— 5.6	86	E	10	4.5	.....	.....	10n	.....	Calm	0.19	4.8	Sleeting	
Dodge City, Kansas	27.13	689.1	29 44	747.8	33	0.6	59	N	12	5.4	.....	5c	5s	W	N	0	0	Fair	
Dubuque, Iowa	28.91	734.3	29.62	752.3	28	— 2.2	77	N	2	0.9	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Duluth, Minnesota	29.12	739.6	29.85	758.2	10	—12.2	90	NW	12	5.4	.....	.....	10n	.....	Calm	0.23	5.8	Light snow..	
Eagle Pass, Texas	28.92	734.6	29.65	753.1	50	10.0	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.00	762.0	30.08	764.0	6	—14.4	76	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	61	16.1	89	S	.....	.....	4	0	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	26.11	663.2	.....	.....	51	10.6	27	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	28.96	735.6	29.70	754.4	21	— 6.1	100	NE	10	4.5	.....	.....	10n	.....	Calm	0,01	0.3	Light snow..	
Escanaba, Michigan	29.05	737.9	29.75	755.6	11	—11.7	80	N	16	7.2	.....	.....	10n	.....	N	0.01	0.3	Light snow.	
Florence, Arizona	28.42	721.9	30.02	762.5	48	8.9	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.21	716.5	.....	.....	—17	—27.2	68	NW	.....	.....	4	0	0	.....	.....	0.04	1.0	Clear	
Fort Craig, New Mexico	25.37	644.4	29.43	747.5	49	9.4	30	E	2	0.9	.....	10cs	0	Calm	.....	0	0	Cloudy	
Fort Davis, Texas	25.02	635.5	29.98	761.5	61	16.1	19	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	28.99	736.3	29.52	749.8	51	10.6	72	S	3	1.3	.....	2c	Haze	N	Calm	0	0	Hazy	
Fort Griffin, Texas	28.32	719.3	29.55	750.6	54	12.2	43	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.69	703.3	.....	.....	— 5	—20.6	63	NW	15	6.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Fort McKavett, Texas	27.46	697.5	29.35	745.5	49	9.4	37	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.39	721.1	29.46	748.3	52	11.1	65	NW	8	3.6	.....	0	5s	.....	N	0	0	Fair	
Fort Stevenson, Dakota	28.27	718.0	.....	.....	—11	—23.9	100	NE	.....	.....	4	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fredericksburg, Texas	27.93	709.4	29.45	748.0	57	13.9	75	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.75	755.6	29.79	756.7	62	16.7	88	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	28.59	726.2	29.52	749.8	49	9.4	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	28.92	734.6	29.59	751.6	22	— 5.6	86	E	9	4.0	.....	.....	10n	.....	Calm	0.18	4.6	Light snow..	
Indianapolis, Indiana	28.72	729.5	29.48	748.8	44	6.7	76	S	3	1.3	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Indianola, Texas	29.75	755.6	29.78	756.4	64	17.8	94	SW	26	11.6	.....	.....	10s	.....	SW	0	0	Threatening	
Jacksboro, Texas	28.43	722.1	29.53	750.0	50	10.0	39	N	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.05	763.3	30.07	763.8	48	8.9	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	28.91	734.3	29.53	750.0	36	2.2	90	N	9	4.0	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Key West, Florida	30.00	762.0	30.03	762.8	66	18.9	84	E	4	1.8	.....	1k	Fog	Calm	Calm	0	0	Clear	
Kittyhawk North Carolina	29.96	761.0	29.98	761.5	47	8.3	62	SW	13	5.8	.....	10cs	0	W	.....	0	0	Cloudy	
Knoxville, Tennessee	28.84	732.5	29.84	757.9	48	8.9	56	W	8	3.6	.....	2ck	2s	W	W	0	0	Fair	
La Crosse, Wisconsin	28.93	734.8	29.70	754.4	19	— 7.2	85	N	6	2.7	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
La Mesilla, New Mexico	25.94	658.9	30.09	764.3	35	1.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.30	744.2	29.64	752.8	56	13.3	81	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	28.80	731.5	29.66	753.4	34	1.1	79	N	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Los Angeles, California	29.62	752.3	29.96	761.0	51.0	10.6	96	E	3	1.3	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Louisville, Kentucky	29.05	737.9	29.59	751.6	56	13.3	51	E	12	5.4	.....	8c	2s	SW	Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.25	742.9	29.95	760.7	38	3.3	71	NE	3	1.3	.....	0	8s	.....	Calm	0.02	0.5	Cloudy	
Madison, Wisconsin	28.59	726.2	29.61	752.1	20	— 6.7	85	NE	10	4.5	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
Marquette, Michigan	29.02	737.1	29.76	755.9	20	— 6.7	100	W	4	1.8	.....	.....	10n	.....	Calm	0.24	6.1	Light snow..	
Mason, Texas	28.04	712.2	29.76	755.9	57	13.9	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.40	746.7	29.71	754.6	56	13.3	87	SW	8	3.6	.....	10cs	Haze	Calm	Calm	0	0	Cloudy	
Milwaukee, Wisconsin	28.81	731.8	29.54	750.3	30	— 1.1	89	E	5	2.2	.....	.....	10n	.....	Calm	0.05	1.3	Light snow..	
Mobile, Alabama	29.90	759.4	29.95	760.7	55	12.8	93	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.73	755.1	29.97	761.2	48	8.9	92	SE	8	3.6	.....	5cs	0	W	.....	0	0	Fair	
Morgantown, West Virginia	28.65	727.7	29.70	754 4	42	5.6	83	Calm	0	0	.....	.....	10n	.....	Calm	0.02	0.5	Light rain...	
Mt. Washington, N. H.	23.28	591.3	29.64	752.8	—13	—25.0	47	NW	54	24.1	.....	Haze	1s	Calm	NW	0	0	Clear	
Nashville, Tennessee	29.23	742.4	29.75	755.6	56	13.3	81	SE	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.02	762.5	30.15	765.8	20	— 6.7	65	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.10	764.5	30.15	765.8	20	— 6.7	70	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Orleans, Louisiana	29.83	757.7	29.89	759.2	68	14.4	82	S	7	3.1	.....	0	2s	.....	SW	0	0	Fair	
Newport, Rhode Island	30.11	764.8	30.16	766.1	20.5	— 6.4	63	NE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
New York, New York	29.93	760.2	30.12	765.0	24	— 4.4	74	E	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	29.90	759.4	29.96	761.0	46	7.8	62	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10	0—10.	0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
North Platte, Nebraska	26.62	681.2	29.44	747.8	28	— 2.2	94	Calm	0	0	.....	.....	10n	.....	Calm	0.22	5.6	Light snow.	
Olympia, Washington Ter.	30.21	767.3	30.25	768.3	37.2	2.9	100	S	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.62	726.9	29.78	756.4	18	— 7.8	84	NW	18	8.0	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Oswego, New York	29.67	753.6	30.01	762.2	26	— 3.3	63	SE	8	3.6	.....	.....	10s	.....	.....	0.09	2.3	Cloudy	
Pembina, Dakota	29.35	745.5	30.33	770.4	—24	—31.1	100	NW	26	11.6	.....	.....	10n	.....	Calm	0.22	5.6	Light snow.	
Philadelphia, Pa	29.99	761.7	30.04	763.0	25	— 3.9	75	NE	16	7.2	.....	5cs	5s	Calm	Calm	0.03	0.8	Cloudy	
Phœnix, Arizona	28.72	729.5	30.54	775.7	61	10.6	40	E	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Pike's Peak, Colorado	17.48	444.0	29.08	738.9	6	—14.4	28	NW	60	26.8	.....	8cs	0	NW	.....	0	0	Fair	
Pioche, Nevada	24.05	610.7	29.82	757.4	40	4.4	39	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.88	733.5	29.70	754.4	32	0.0	89	SE	4	1.8	.....	.....	10n	.....	SW	0.04	1.0	Light rain	
Port Huron, Michigan	28.96	735.6	29.66	753.4	16	— 8.9	100	E	12	5.4	.....	.....	10n	.....	Calm	0.03	0.8	Light snow.	
Portland, Maine	30.09	764.3	30.14	765.5	12	—11.1	61	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Portland, Oregon	30.26	768.6	30.36	771.1	42.8	5.7	83	N	3	1.3	.....	0	9s	.....	.....	0.02	0.5	Cloudy	
Prescott, Arizona	24.09	627.1	30.05	763.3	46	7.8	54	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.14	740.1	29.96	761.0	50	10.0	78	SE	10	8.5	.....	5k	Sm'e	S	Calm	0	0	Smoky	
Punta Rassa, Florida	30.05	763.3	30.06	763.5	57	13.9	75	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.78	756.4	30.14	765.5	49	9.4	85	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.57	751.1	29.79	756.7	60	15.6	86	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.25	742.9	29.91	759.7	13	—10 6	81	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Roseburg, Oregon	29.78	756.1	30.32	770.1	39.0	3.9	91	Calm	0	0	.....	2c	1s	Calm	Calm	0	0	Fair	
Sacramento, California	30.01	762.2	30.10	764.5	53	11.7	93	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	28.94	735.1	29.49	749.0	56	13.3	69	SW	7	3.1	.....	5k	Sm'e	W	.....	0	0	Fair	
St. Marks, Florida	30.03	762.8	30.05	763.3	33	3.3	91	SW	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
St. Paul, Minnesota	28.86	733.0	29.78	756.1	16	— 8.9	66	NW	11	4.9	.....	.....	10n	.....	.....	0.03	0.8	Light snow.	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	45	7.2	39	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Antonio, Texas	29.04	737.6	29.91	762.1	53	11.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.90	759.4	29.97	761.2	53	11.7	100	SW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	28.91	734.3	29.59	751.6	36	1.7	70	E	6	2.7	.....	.....	10n	.....	Calm	0.47	11.9	Light rain	
Sandy Hook, New Jersey	30.06	763.5	30.09	764.3	26	— 3.3	75	E	24	10.7	.....	.....	10s	.....	SE	0	0	Cloudy	
San Francisco, California	30.06	763.5	30.18	765.3	51	10.6	95	SW	1	0.4	.....	0	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.10	586.7	29.64	752.8	38	3.3	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.97	761.2	30.07	763.8	52	11.1	73	SW	5	2.2	.....	0	Fog	.....	Calm	0	0	Clear	
Shreveport, Louisiana	29.44	747.8	29.85	758.1	58	14.4	82	S	4	1.8	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Silver City, New Mexico	24.21	614.9	30.44	773.2	40	4.4	56	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.04	763.0	30.08	764.0	51	10.6	93	SW	7	3.1	.....	1c	0	W	.....	0	0	Clear	
Springfield, Massachusetts	29.99	761.7	30.14	765.5	19	— 7.2	69	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Stockton, Texas	26.74	679.2	29.74	755.4	52	11.1	36	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.02	762.5	30.08	764.0	19	— 7.2	54	NW	1	0.4	.....	5cs	0	NW	.....	0	0	Fair	
Toledo, Ohio,	28.87	733.3	29.56	750.8	30	— 1.1	100	NE	8	3.6	.....	.....	10n	.....	Calm	0.36	9.1	Light rain	
Tucson, Arizona	27.47	697.7	30.02	762.5	45	7.2	46	S	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Umatilla, Oregon	29.93	760.2	30.45	773.4	33.0	0.6	89	SE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	22	— 5.6	100	NW	.....	.....	2	.....	10s	.....	N	Blank	Blank	Cloudy	
Uvalde, Texas	28.88	733.5	29.70	754.4	53	11.7	73	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.58	751.3	29.83	757.7	57	13.9	87	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Virginia City, Montana	24.01	609.8	29.49	749.0	16	— 7.8	68	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Visalia, California	29.69	754.1	30.07	763.8	48.3	9.1	86	W	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Washington, D. C.	29.85	758.2	29.97	761.2	32	0.0	69	NE	9	4.0	.....	.....	10ks	.....	SW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	46	7.8	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.94	760.5	30.02	762.5	50	10.0	72	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.77	654.6	30.13	765.3	28	— 2.2	77	SW	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Wood's Holl, Mass	30.11	764.8	30.15	765.8	22	— 5.6	86	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	28.61	726.7	30.00	762.0	9	—12.8	89	NW	20	8.9	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Yuma, Arizona	29.69	754.1	29.86	758.4	67	18.9	52	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	27.98	710.7	29.33	745.0	56	13.3	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	64	17.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.95	760.7	30.03	762.8	74	23.3	.....	NE	12.5	5.6	.....	.....	.....	.....	.....	0.78	19.8	Cloudy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	81	27.2	87	E	.....	.....	2	0	5k	.....	.....	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.06	763.5	30.11	764.8	—43.0	—41.7	.....	NW	32	14.3	.....	.....	9s	.....	NW	0.06	1.5	Squally	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,300 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,642 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.88 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the cooperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.12	765.0	53	11.7	52	11.1	79	W	2	0.9	.....	.....	2	.....	Calm	0	0	.....	.....	Clear	
Navy Yard, Pensacola, Fla.	30.10	764.5	60	15.6	60	15.6	88	S	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	30.16	766.1	59	15.0	8	—13.3	78	W	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....*	30.11‡	764.8‡	.....	.....	48	8.9	92	Calm	.....	.....	0	.....	10n	.....	W	0.18	4.6	.....	.....	Raining	
Adams, Panama	29.94	760.5	78	25.6	76	24.4	95	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Alaska, Pichilinque Bay, Mexico	30.04	763.0	69	20.6	62	16.7	88	S	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky	
Alliance, Villafranca, France.....	29.10‡	739.1‡	.....	.....	46	7.8	77	NNW	.....	.....	0-1	.....	10	.....	N;W	.....	.....	.....	.....	Drizzling.....	
Ashuelot, Hong-Kong, China.	29.98‡	761.6‡	.....	.....	66	18.9	94	E	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Canonicus, New Orleans, La.....	30.00	762.0	46	7.8	60	15.6	94	S	.....	.....	3	.....	2	.....	S	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.....	30.05	763.3	25	— 3.9	24	— 4.4	100	ENE	5	2.2	.....	.....	10	.....	.....	.....	.....	.....	.....	Threatening	
Constitution, Lisbon, Portugal.....	29.98‡	761.5‡	.....	.....	50	10.0	100	NW	.....	.....	4	.....	8	.....	N	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	30.10‡	764.5‡	.....	.....	68	20.0	42	SE	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.06	763.5	66	18.9	48	8.9	63	SW	3.6	1.6	.....	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.52‡	749.8‡	.....	.....	40	4.4	100	N	.....	.....	4-6	.....	10	.....	N	.....	.....	Smooth	.....	Rain & snow	
Hartford, Montevideo, Uruguay...	29.84	757.9	72	22.2	69	20.6	75	SSW	.....	.....	4	.....	10	.....	WSW	0	0	Mod'ate	SW	Cloudy.....	
Lackawana, Panama.....*	29.68‡	753.9‡	.....	.....	74	23.3	100	NW	.....	.....	0-1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.....†	29.84	757.9	.....	.....	23	— 5.0	86	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Rainy	
Monocacy, Shanghai, China.....*	30.14‡	765.5‡	.....	.....	45	7.2	76	ESE	.....	.....	2	.....	2	.....	ESE	.....	.....	.....	.....	Light fog....	
Monongehela, Yokohama, Japan ....*	30.09‡	764.3‡	.....	.....	47	8.3	100	N	.....	.....	1	.....	10	.....	N	Light	Light	.....	.....	Raining	
New Hampshire, Port Royal, S. C.....	30.07	763.8	55	12.8	52	11.1	86	WSW	7	3.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Onward, Callao, Peru.....†	30.00	762.0	.....	.....	69	20.6	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.95	760.7	34	1.1	31	— 0.6	89	E	.....	.....	3	.....	10	.....	E	.....	.....	.....	.....	Overcast.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	31	— 0.6	79	NE	.....	.....	2	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 37° 29′, W. 91° 20′.....	29.87‡	758.7‡	.....	.....	68	20.0	84	W	23	10.3	.....	.....	2	.....	W	0	0	Long	WSW	Overcast.....	
Powhatan, Havana, Cuba	30.07	763.8	62	16.7	62	16.7	88	Calm	.....	.....	0	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Quinnebaug, Villafranca, France.....	29.10‡	739.1‡	.....	.....	45	7.2	76	WNW	.....	.....	1	.....	10	.....	N;W	.....	.....	Smooth	.....	Raining	
Ranger. Kobe, Japan.....*	30.06‡	763.5‡	.....	.....	56	13.3	81	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.	
Richmond, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rio Bravo, Brownsville, Texas.....	29.77	756.1	68	20.0	67	19.4	95	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	29.98‡	761.5‡	.....	.....	32	0.0	100	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.95	760.7	58	14.4	30	— 1.1	.....	ENE	11	4.9	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Supply, N. 22° 62′, W. 54° 10′.....	30.11‡	764.8‡	.....	.....	80	26.7	78	ESE	.....	.....	3-4	.....	2	.....	ESE	.....	.....	Smooth	.....	Clear	
Trenton, Villafranca, France.....	29.10‡	739.1‡	.....	.....	43	6.1	100	NE	.....	.....	1	.....	10	.....	S;E	0	0	None	.....	Cloudy.....	
Tuscarora, Acapulco, Mexico.....	29.91‡	759.7‡	.....	.....	74	23.3	81	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	30.18‡	766.6‡	.....	.....	16	— 8.9	66	NE	2	0.9	.....	.....	5	.....	.....	.....	.....	.....	.....	Hazy.....	
Wyoming, Smyrna, Turkey.....	30.14‡	765.5‡	.....	.....	68	20.0	90	SE	.....	.....	1-2	.....	8	.....	SE	.....	.....	Smooth	SE	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—12.	0—10.	0—10.	From—	From—	Character.	Direction from—			
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			Capt. Connolly.
S. S. Dakota, Capt. Morse																			
S. S. Georgia																			
S. S. Granada, N. 21° 50′, W. 108° 50′..†*		30.10‡	764.5‡	70	21.1	80	SW			3		k		NE	0	Smooth		Clear.	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia, N. 36° 02′, W. 127° 27′		30.20‡	769.4‡				WNW			6		Fog		NNE		Long; mod'ate	NW;NE	Hazy	R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation; no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, N. 22° 32′, E. 115° 41′...*		29.86‡	758.4‡	66	18.9	84	NE			4		ks		NE		Mod'ate	NE	Hazy	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 19′, W. 156° 24′....†		29.67‡	751.1‡	56	13.3	81	Var.			6		k		Var.	Blank	Con-fused	SW	Overcast	Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 37° 04′, W. 18° 49′		30.16‡	766.1‡	57.0	13.9	68	NNW			5		5		NNW		Mod'ate	NNW	Fine	Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		30.10‡	764.5‡	28	— 2.2		ENE			4		9		NE	0			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool†		30 16‡	766.1‡	39	3.9		NE			3		2		NE	0			Fair	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

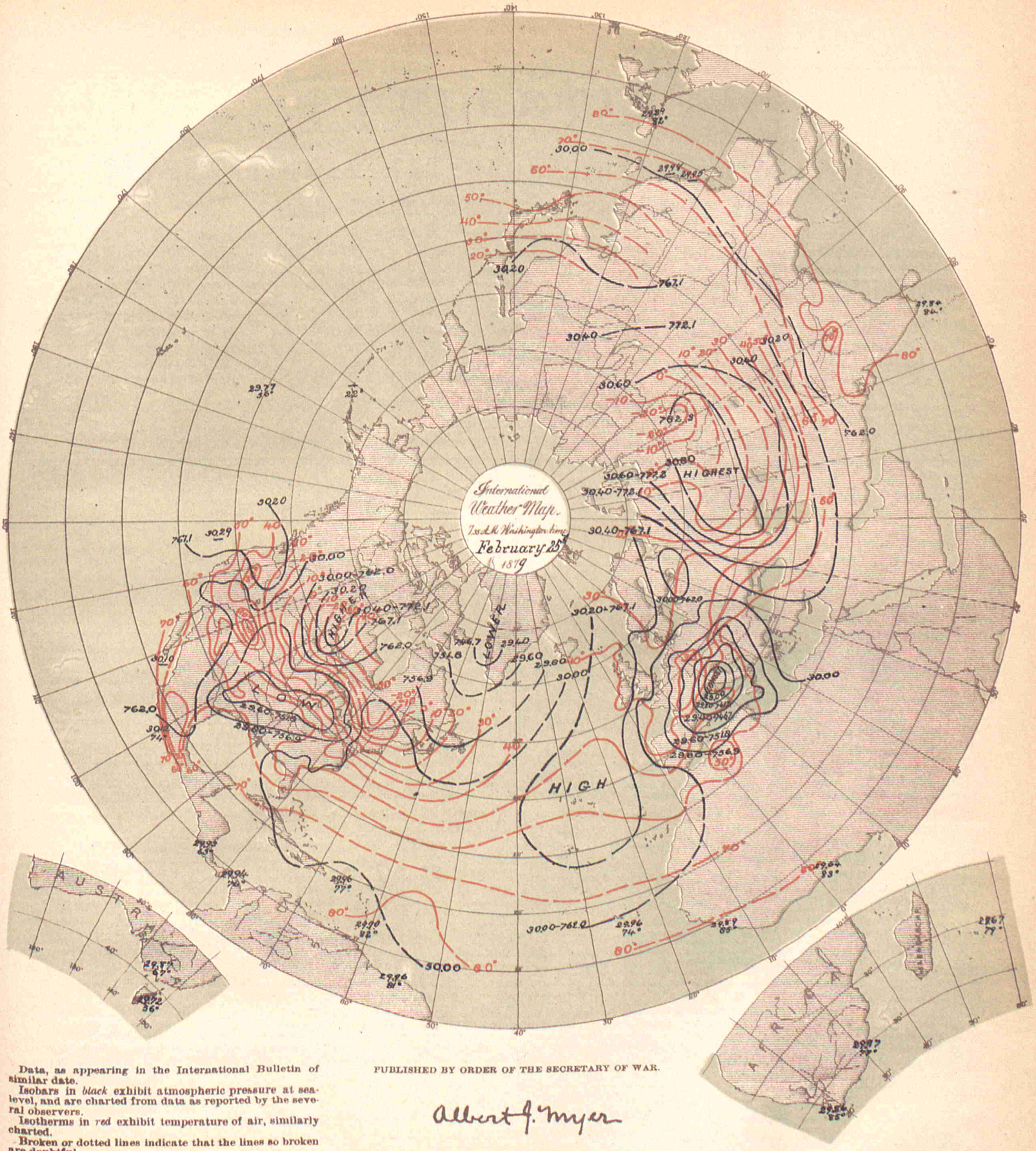
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 26, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—ir.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.16	766.1	57.2	14.0	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Fair	
Nemours	.....	.....	30.05	763.3	55.6	13.1	80	WNW	.....	.....	2	.....	8	.....	.....	0.472	12.0	Very cloudy	Kesxuche.
Algiers	.....	.....	29.91	759.7	48.9	9.4	78	WSW	.....	.....	4	.....	8	.....	.....	0.161	4.1	Very cloudy	Tourillere.
La Calle	.....	.....	29.93	760.3	57.2	14.0	65	NW	.....	.....	6	.....	8	.....	.....	0.039	1.0	Very cloudy	Foufrede.
Tunis	.....	.....	29.89	759.1	60.4	15.8	82	W	.....	.....	7	.....	10	.....	.....	0	0	Covered	Jacques.
Sfax	.....	.....	30.06	763.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.93	760.1	44.6	7 0	53	W	.....	.....	4	.....	10	.....	.....	0.118	3.0	Covered	Herbin.
Tebessa	.....	.....	30.02	762 4	53.6	12.0	22	W	.....	.....	7	.....	5	.....	.....	0.043	1.1	Cloudy	Watrin.
Geriville	.....	.....	29.92	759.9	37.8	3.2	80	N	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	29.99	761.7	52.9	11.6	53	W	.....	.....	4	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.00	761.9	59.5	15.3	52	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann. Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.08	738.7	29.63	752.6	50.7	10.4	43	SW	.....	.....	3	.....	4	.....	.....	0.091	2.3	.....	Prof. Ivan Stoair.
Cracow, I. R. Observatory	28.79	731.3	29.56	750.8	46.0	7.8	83	WNW	.....	.....	1	.....	10	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	28.69	728.6	29.56	750.9	46.9	8.3	77	S	.....	.....	1	.....	8	.....	.....	0.018	0.45	.....	Julius Mikolik.
Gratz	28.35	720.0	29.60	751.8	45.9	7.7	63	S	.....	.....	3	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.17	715.5	29.61	752.0	45.3	7.4	77	SW	.....	.....	2	.....	10	.....	.....	0.191	4.85	Raining	Prof. A. Gottschling.
Kremsmünster	28.24	717.4	29.62	752.4	34.3	1.3	63	NNW	.....	.....	2	.....	2	.....	.....	0.138	3.5	.....	Prof. C. Wagner.
Lemberg	28.54	724.8	29.61	749.6	50.0	10.0	74	SW	.....	.....	1	.....	10	.....	.....	0.370	9.4	.....	Dr. T. Stanecki.
Pola	29.58	751.4	29.69	754.2	50.9	10.5	54	S	.....	.....	2	.....	10	.....	.....	0.339	8.6	Thunder-storm.	I.R. Hydrographic Office.
Szathmar	29.18	741.1	29.65	753.0	45.7	7.6	91	S	.....	.....	3	.....	10	.....	.....	0.732	18.6	.....	Julius Osics, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.61	752.0	29.71	754.6	51.3	10.7	72	SW	.....	.....	1	.....	10	.....	.....	0.882	22.4	Raining	P. Busin.
Vienna	28.85	732.7	29.56	750.9	47.3	8.5	66	N	.....	.....	1	.....	0	.....	.....	0	0	.....	I. R. Central Met. Ob's'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.59	751.6	29.80	756.9	33.8	1.0	97	N	.....	.....	4	.....	10	.....	.....	0.201	5.10	Snowing	Royal Observatory
Furnes	29.88	759.0	29.91	759.6	33.8	1.0	85	N	.....	.....	3	.....	10	.....	.....	0.043	1.1	Snowing	M. E. de Cae.
Maeseyck	29.60	751.7	29.72	754.9	30.2	— 1.0	98	N	.....	.....	4	.....	10	.....	.....	0.130	3.3	Snowing	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:9, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.02	762.5	30.12	765.0	36.2	2.3	.....	SW	8	3.6	.....	.....	4	.....	.....	0.095	2.42	Misty	W. Boswell.
Ardrossan	30.16	766.1	30.18	766.6	39	3.9	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	William McNeil.
Armagh, Observatory	.....	.....	30.24	768.1	38 0	3.3	.....	SSW	13	5.8	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.22	767.6	38.4	3.6	.....	NNW	14	6.3	.....	.....	3	.....	.....	.....	.....	Blue sky	John Hartnup.
Bolton, (Sharples)	.....	.....	30.18	766.6	38.3	3.5	.....	NE	18	8.0	.....	.....	2	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Bradford, Yorkshire	29.78	756.4	30.17	766.3	36.9	2.7	.....	N	.....	.....	1	.....	10	.....	.....	0.01	0.3	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.89	759.2	29.92	760.0	80	26.7	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Surgener, A H. [C.
Cambridge, Observatory	.....	.....	30.08	764.0	35.0	1.7	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Snowing	H. Todd.
Cardington	.....	.....	30.06	763.5	35.4	1.9	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.70	754.4	29.84	757.9	34.2	1.2	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Corpl. Daly, R. E.
Dartmoor	28 52	724 4	30.05	763.3	32.0	0.0	.....	NE	.....	.....	5	.....	4	.....	.....	.....	.....	Squally	Alexander Watt.
Donaghadee	30.16	766.1	30.20	767.1	40	4.4	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.95	760.7	29.97	761.2	34	1.1	.....	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Snow & hail	J. Costello.
Falmouth, Observatory	30.01	762.2	30.24	768.1	38.9	3.8	.....	N	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.43	696.7	29.75	755.6	85.0	29.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.64	752.8	29.87	758.7	89	31.7	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.21	767.3	44	6.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.03	762.8	30.08	764.0	53.4	11.9	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.95	760.7	30.16	766.1	38.7	3.7	.....	WSW	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.00	762.0	30.01	762.2	34	1.1	.....	NNE	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast	G. T. Watson.
Greenwich, Royal Obs'y	29.87	758.7	30.05	763.3	34.9	1.6	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	The Staff, for G. B. Airy
Guernsey	29.88	758.9	30.11	764.8	36	2.2	.....	NNW	.....	.....	4	.....	8	.....	.....	.....	.....	Squally	Dr. S. E. Hoskins, F.R.S.
Helston	30.06	763.5	30.18	766.6	36	2.2	.....	N	.....	.....	2	.....	3c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.18	766.6	30.23	767.8	40	4.4	.....	NW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.79	756.7	30.09	774.3	36.3	2.4	.....	NNE	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew, Observatory	30.03	762 8	30.07	763.8	35.4	1.9	.....	N	20	8.9	.....	.....	10	.....	.....	.....	.....	Threatening	The Meteorological Of.
Leicester, Museum	29.88	758.9	30.14	765.5	37.5	3.1	.....	NE	.....	.....	1	.....	9	.....	.....	Blank	Blank	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	61	16.1	.....	SW	.....	.....	2	.....	4k	.....	.....	.....	.....	Blue sky	Sergt. H. J. Beckett, A. H. C.
Nairn	29.95	760.7	30.04	763.0	38	3.3	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.03	762.8	73.0	22.8	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.97	761.2	30.16	766.1	36.4	2.4	.....	N	.....	.....	3	.....	10k;d	.....	NNE	0.011	0 28	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.62	752.3	30.16	766.1	36.8	2.7	.....	N	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.11	764.8	36	2.2	.....	N	.....	.....	5	.....	10	.....	.....	.....	.....	Threatening	H. E. Bellamy.
Plymouth	30.12	765.0	30.20	767.1	38.4	3.6	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	30.27	768.8	30.32	770.1	44	6.7	.....	NNW	.....	.....	3	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	30.07	763.8	30.24	768.1	38	3.3	.....	N	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.97	761.2	37.1	2.8	.....	SSW	18	8.0	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.90	759.4	62.4	16.9	.....	WSW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	W. H. Lyne.
Sheffield	29.88	758 9	30.18	766.6	37.3	2.9	.....	NNE	.....	.....	2	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.18	766.6	30.21	767.3	39.7	4.3	52	Calm	.....	.....	0	.....	0	.....	.....	0.100	2.54	Blue sky	Francis Redford, A. M.
Stonyhurst, Observatory	29.79	756.7	30.19	766.8	38.5	3.6	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	Blue sky	Rev. S. J. Perry.
Stratfield Turgiss	29.86	758.4	30.09	764.3	35.2	1.8	.....	NE	.....	.....	3-4	.....	10	.....	.....	.....	.....	Squally	C.H. Griffith, F.R.S.
Thurso	29.94	760.5	30.00	762.0	36	2.2	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Misty	John Trotter.
Truro, Royal Institution	.....	.....	30.20	767.1	46	7.8	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe
Valencia, Observatory	30.30	769.6	30.33	770.4	44.7	7.1	.....	WSW	11	4.9	.....	.....	7	.....	.....	.....	.....	D. clouds	The Meteorological Of.
SUB-SERIES.																			
Cape of Good Hope Obs'y	29.86	758.4	29.89	759.2	75	23.9	65	SSE	29	13.0	.....	8	10	.....	.....	0.065	1.65	Raining	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.41	747.0	68.0	20.0	88	NW	.....	.....	2	.....	n	.....	.....	0.1	3.	Light rain	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	30.18	766 6	38.5	3.6	.....	W	.....	.....	1	.....	.....	.....	.....	0.09	2.3	Hazy	Andrew Gibb.
Mauritius, Observatory	29.29	744.0	29.47	748.6	78.0	25.6	81	WSW	27.5	12.3	.....	.....	10	.....	WSW	2.03	51.6	Squally	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.68	753.9	70.7	21.5	57	S	9	4.0	.....	.....	10	.....	.....	0	0	Threatening	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	30.00	762.0	45	7.2	.....	SW	.....	.....	4	Fog	Fog	.....	.....	0.2	5.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.86	758.4	30	3.9	.....	SW	.....	.....	6	.....	10	.....	.....	Blank	Blank	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Brig Alliance, N. 28° 42′, W. 30° 14′	.....	.....	30.20‡	767.1‡	68	20.0	N	.....	.....	4	.....	8	.....	.....	.....	.....	Showery	Capt. W. Scott.
S. S. Amanda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. B. Boyes.
Barque Belle Isle, N. 20° 30′, W. 82° 55′	.....	.....	29.95	760.7	81	27.2	NE	.....	.....	5	.....	2	.....	.....	4	NE	Blue sky	Capt. A. J. Brown.
Ship British Commodore, N. 46° 15′, W. 20° 15′	.....	.....	30.48	774.2	56	13.3	WSW	.....	.....	8	.....	4	.....	.....	8	WNW	D. clouds	Capt. J. W. Thorne.
——City of Agra, S. 14° 00′, W. 23° 42′	.....	.....	30.03‡	762.8‡	79.2	26.2	ENE	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky	Capt. Thos. Young. Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
——Denbighshire, S. 47° 26′, W. 26° 48′	.....	.....	30.43‡	772.9‡	55	12.8	S	.....	.....	8	.....	10	.....	.....	.....	.....	Gloomy	Capt. H. Murdoch.
Barque Mertole, N. 36° 28′, W. 9° 40′	.....	.....	30.21‡	767.3‡	51.3	10.7	NNE	.....	.....	6	.....	1	.....	.....	.....	.....	Blue sky	Capt. E. W. Turner. Capt. Barlow.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
——Strathleven, N. 13° 58′, E. 91° 50′	.....	.....	29.77‡	756.1‡	79.5	26.4	N	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Capt. C. W. Pearson. Capt. McMontry.
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2ks	.....	.....	.....	0	0	.....	Mr. Ansart.
San José	26.27	667.2	29.99	761.7	64.4	18.0	85	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.72	755.0	29.77	756.2	27.7	— 2.4	96	NE	.....	.....	6	.....	10	.....	.....	.....	.....	Snow & sleet	.....
Fanöe	29.87	758.7	29.89	759.2	27.3	— 2.6	87	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.23	742.5	29.28	743.6	18.0	— 7.8	86	ENE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.72	754.9	29.76	755.8	43.0	6.1	78	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.78	756.4	29.95	760.7	24.4	— 4.2	86	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers,

Alençon, Normal School	29.42	747.3	29.97	761.3	36.0	2.2	85	NE	.....	.....	2	.....	10	.....	.....	0.020	0.5	Snowing	Collignon, Director.
Amiens, Normal School	29.78	756.4	29.90	759.4	35.6	2.0	64	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.67	753.7	29.75	755.7	41.0	5	71	N	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.19	741.4	29.78	756.3	33.3	0.7	86	NE	.....	.....	1	.....	10	.....	.....	0.366	9.3	Snowing	O. Saillard, Director.
Beauvais, Normal School	29.61	752.2	29.91	759.8	32.9	0.5	90	N	.....	.....	2	.....	10	.....	.....	0.04	1.	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.61	752.2	29.91	759.8	32.9	0.5	90	N	.....	.....	2	.....	10	.....	.....	0.441	11.2	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	28.89	733.8	29.78	756.5	35.6	2	72	E	.....	.....	3	.....	kn	SE	SE	0	0	.....	M. Marlot, Director.
Bourges, Normal School	28.90	734.1	29.80	756.8	36.1	2.3	80	SE	.....	.....	3	.....	10	N	N	0	0	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.19	741.3	29.76	755.8	34.3	1.3	85	N	.....	.....	4	.....	10	.....	N	.....	.....	Snowy	M. de Rermaree, Director
Carcassonne, Normal School	29.86	758.5	30.11	764.7	38.8	3.8	63	N	.....	.....	4	.....	10	W	W	.....	.....	Snowing	September, Director.
Caen, Normal School	29.60	749.4	29.94	760.4	34.9	1.6	80	W	.....	.....	2	.....	10	.....	.....	0	0	Covered	M. Lair, Director.
Chartres, Normal School	29.93	760.1	30.00	762.1	36.7	2.6	72	.....	.....	.....	8	.....	10	.....	.....	0.12	3.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.24	742.7	29.84	757.8	30.2	— 1	92	N	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	29.47	748.5	29.80	757.0	32 0	0.0	.....	NNE	.....	.....	4	.....	10	.....	.....	0.016	0.4	Snowy	Alluard, Director.
Commercy, Normal School	28.43	722.0	29.84	757.8	34.7	1.6	74	NW	.....	.....	2	.....	10	.....	N	.....	.....	Light snow	Dr. Coulet, Director.
Commune de Grèasque*	28.83	732.2	29.73	755.1	34.2	1.2	65	NW	.....	.....	1	.....	10	.....	NW	.....	.....	¾ covered	M. Kina, Director.
Grenoble, Normal School	28.57	725.7	29.71	754.7	34.9	1.6	66	NW	.....	.....	6	.....	8	.....	NW	Blank	Blank	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.00	736.7	29.80	757.0	34.5	1.4	93	NW	.....	.....	1	.....	10ck	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.81	757.2	30.03	762.8	37.4	3.0	89	NW	.....	.....	3	.....	10	.....	.....	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.61	752.2	29.93	760.2	36.5	2.5	79	N	.....	.....	4	.....	5	.....	N	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	28.82	731.9	29.75	755.7	34.3	1.3	85	W	.....	.....	2	2c	.....	.....	W	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	30.02	762.6	30.12	765.1	40.3	4.6	74	N	.....	.....	5	.....	.....	.....	N	0	0	.....	M. Galzin, Director
Mirecourt, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Barbier, Director.
Nismes, Normal School	28.64	727.4	29.72	754.9	33.4	0.8	40	SW	.....	.....	1	.....	n	.....	NE	0	0	.....	.....
Privas, Normal School	29.51	749.6	29.72	754.8	43.9	6.6	77	SE	.....	.....	3	.....	10	.....	E	0	0	Covered	Boyer, Director.
Puy de Dome (Summit) Obs	28.68	728.5	29.78	756.4	36.7	2.6	72	N	.....	.....	1	.....	10	N	N	.....	.....	Snowing	M. Cantier, Director.
Rochefort, Naval Obs'y	24.74	628.3	.....	.....	16.3	— 8.7	100	NW	.....	.....	8	.....	.....	.....	.....	1.339	34.0	Foggy	Alluard, Director.
Rouen, Normal School	29.96	760.9	29.99	761.7	40.5	4.7	85	N	.....	.....	1	.....	10	N	N	0	0	Covered	Lt. Decante, Director.
Saint Malo (Port) Obs'	29.85	758.2	29.94	760.4	35.6	2.0	79	NNE	.....	.....	4	.....	8	.....	NNE	0	0	Very cloudy	Frere Lucard, Director.
Saint Maur, (near Paris)	30.04	763.0	30.07	763.8	37.2	2.9	72	N	.....	.....	7	.....	10	N	NNW	.....	.....	Snowy	Lt. Hercouet, Director.
Tarbes, Normal School	29.68	753.9	29.85	758.1	33.1	0.6	88	N	.....	.....	3	.....	.....	.....	N	0.094	2.4	.....	E. Renou, Director.
Versailles Observatory	28.85	732.8	29.96	761.1	39.2	4	83	W	.....	.....	6	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.87	748.1	29.87	758.6	33.1	0.6	.....	NE	.....	.....	4	.....	10	.....	.....	0.038	0.96	Snowing	T. Bérigny, Director
SUB-SERIES.	29.05	737.9	29.78	756.5	36.5	2.5	100	SE	.....	.....	1	.....	.....	.....	N	0	0	Covered	M. Gausserand, Director.
Fort de France, Martinique	29.90	759.5	29.93	760.2	75.2	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchési.
Lyons Obs'y, (Park Station)	.....	.....	29.77	756.2	38.8	3.8	64	ENE	.....	.....	1	.....	9	.....	.....	0.051	1.3	Snowing	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.49	622.0	29.80	757.0	27.0	— 2.8	54	SW	.....	.....	2	.....	3	.....	N	0.094	2.4	.....	M. Cave.
Nice	.....	.....	29.67	753.6	44.2	6.8	79	E	.....	.....	1	.....	10	.....	.....	0.094	2.4	Snowy	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.57	751.1	.....	.....	32.5	0.3	89	N	.....	.....	4	.....	10	.....	N	0.039	1.0	Snowing	Marié Davy, Director.
Perpignan	29.78	756.4	29.89	759.1	40.3	4.6	65	NW	26.2	11.7	.....	.....	9	.....	NW	0	0	.. ..	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.13	562.2	.....	.....	14.0	—10.0	.....	N	.....	.....	1	.....	10	.....	.....	1.610	40.9	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.22	742.3	29.95	760.7	35.2	1.8	78	W	.....	.....	4	.....	10	.....	.....	0.087	2.2	.....	M. Mercadier Juller.
Tours	29.71	754.5	29.90	759.5	37.0	2.8	86	NE	.....	.....	2	.....	10	.....	NNW	0	0	.....	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	29.93	760.3	29.96	760.9	52.9	11.6	96	SE	24.6	11.0	.....	.....	10n	.....	.....	0.213	5.4	Raining	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,)2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.72	729.5	29.55	750.6	35.8	2.1	84	SW	.....	.....	4	.....	10	W	....	0.236	6.0	Snowing.....	Prof. Dr. Hoh.
Berlin	29.30	744.2	29.48	748.7	34.5	1.4	100	NE	.....	.....	2	.....	10	.....	.....	0.197	5.0	Snowing.....	Prof. Arndt.
Breslau	29.02	737.2	29.55	750.5	49.1	9.5	54	S	.....	.....	4	.....	5	.....	.....	0.047	1.20	.....	Royal University Obs'y
Carlsruhe	29.21	742.0	29.65	753.1	32.2	0.1	80	SW	.....	.....	5	.....	10	.....	.....	0.220	5.6	Snowing.....	Albert Sena.
Cassel	28.93	734.7	29.53	750.0	34.2	1.2	81	N	.....	.....	5	.....	10	N	....	0.124	3.16	Snowing.....	Dr. H. Möhl.
Crefeld	29.50	749.4	29.67	753.5	31.8	— 0.1	88	N	.....	.....	5	.....	9	.....	.....	0.24	6.	Snowing.....	Director Lose.
Emden	.....	.....	.....	.....	31.3	— 0.4	90	NNE	.....	.....	6	.....	10	.....	.....	0.12	3.	.....	Prof. Prestel.
Frankfort on the Main	29.24	742.6	29.61	752.0	35.6	2.0	.....	W	.....	.....	2	.....	10	.....	.....	0.406	10.3	.....	Physical Society.
Friedrichshafen	28.22	716.9	29.62	752.3	34.2	1.2	56	SW	.....	.....	7	.....	4	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.57	751.1	29.65	753.0	30.6	— 0.8	92	NE	.....	.....	5	.....	10	.....	.....	0.157	4.0	Snowy.....	Captain F. Hegemann.
Kiel	29.71	754.6	29.72	755.0	28.2	— 2.1	100	NNE	.....	.....	8	.....	10	.....	.....	0.018	0.44	Snowing.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.64	752.8	29.72	754.9	34.7	1.5	81	E	.....	.....	5	.....	8	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.56	750.8	36.3	2.4	.....	SE	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.08	738.5	29.51	749.5	33.1	0.6	100	SW	.....	.....	2	.....	10	.....	.....	0.283	7.2	Snowing.....	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.73	755.1	29.78	756.3	34.0	1.1	85	E	.....	.....	6	.....	10n	.....	.....	.....	.....	Raining.....	Skalweit.
Neufahrwasser	29.65	753.1	29.67	753.5	35.2	1.8	85	NE	.....	.....	4	.....	10	.....	.....	0.169	4.3	.....	A. Lothes.
Posen	29 26	743.3	29.56	750.7	40.1	4.5	86	E	.....	.....	2	.....	7	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.18	739.9	29.69	754.2	36.5	2.5	78	SSW	.....	.....	2	.....	10	.....	.....	0.252	7.14	Snowing.....	Imp. University Observatory.
Stuttgart	28.65	727.7	29.56	750.7	34.7	1.5	71	W	.....	.....	1	.....	10	.....	.....	0.076	1.9	Rain & Snow	Prof. Schoder.
Treves, (Trier)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.09	713.4	29.66	753.3	28.6	— 1.9	90	SW	2	1	.....	.....	10	.....	.....	0.307	7.8	Light fog.....	Dr. Van Bebber.
Wustrow, Naval School	29.58	751.3	29.60	751.9	31.8	— 0.1	100	NE	.....	.....	7	.....	10	.....	.....	0.236	6.0	Snowing.....	E. Schütz, Dir.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.67	753.6	30.06	763 5	62.4	16.9	.....	SW	.....	.....	4.0	.....	.....	.....	.....	.....	.....	Smoky.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Dessa	29.36	745.6	29.82	757.5	88.6	31.4	25	SW	7.8	3.5	.....	.....	8	SW	.....	0	0	D. clouds.....	
Bombay	29.83	757.7	29.87	758.7	78.9	26.1	80	NW	10	4.5	.....	.....	1	WSW	.....	0	0	D. clouds.....	
Lahore	29.16	740.8	29.91	759.8	77.9	25.5	29	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.33	694.3	29.87	758.7	76.6	24.8	78	Calm	.....	.....	.....	.....	7	.....	.....	0.05	1.3	D clouds.....	
Roorkee	29.92	734.5	29.82	757.4	77.8	25.4	26	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Agra	29.31	744.5	29.89	759.2	70.7	21.5	20	W	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Nagpur	28.82	731.9	29.85	758.1	85.6	29.8	45	Calm	3.3	1.5	.....	.....	6	.....	NE	0.14	3.6	Gloomy.....	
Lucknow	29.49	749.0	29.86	758.5	80.3	26.8	44	NW	1.5	0.7	.....	.....	.....	.....	.....	0	0	Blue sky.....	
Allahabad	29.54	750.4	29.85	758.3	80.0	26.7	31	NW	3.7	1.6	.....	.....	0	.....	.....	0	0	Blue sky.....	
Patna	29.64	752.8	29.82	757.4	79.3	26.3	52	W	2.3	1.0	.....	.....	2	W	W	0	0	.....	
Hazaribagh	27.82	706.6	29.84	757.9	76.0	24.4	28	NW	9.7	4.3	.....	.....	0	.....	.....	0	0	Blue sky.....	
Cuttack	29.78	756.4	29.86	758.5	86.6	30.3	46	WNW	3.1	1.4	.....	.....	0	.....	.....	0	0	Blue sky.....	
Calcutta (Alipore)	29.80	757.0	29.82	757.5	82.0	27.8	44	N	4.0	1.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Goalpara	29.38	746.3	29.77	756.2	78.8	26.0	28	W	2.0	0.9	.....	.....	0	.....	.....	0	0	Blue sky.....	
Chittagong	29.83	757.8	29.93	760.1	77.5	25.3	83	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	Misty.....	
Sibsagar	29.50	749.4	29.85	758.2	69.0	20.6	74	ENE	0.9	0.4	.....	.....	4	.....	.....	0.02	0.5	Blue sky.....	
Jubbulpore	28.49	723.7	29.86	758.3	80.6	27.0	50	NE	3.2	1.4	.....	.....	1	.....	.....	0	0	D. clouds.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.27	743.5	29.69	754.0	47.1	8.4	64	S	6.3	2.8	.....	.....	5	.....	.....	0.799	20.3	.....	Prof. Giovanni Clodig.
Padua	29.57	751.1	29.68	753.9	45.9	7.7	71	SE	7.4	3.3	.....	.....	8	S	.....	0.228	5.8	.....	Prof. Dott. Lorenzoni
Milan	29.14	740.1	29.67	753.5	41.9	5.5	69	N	.....	.....	2	.....	9	WNW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.74	729.9	29.66	753.3	39.6	4.2	82	N	0.7	0.3	.....	.....	5	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.72	704.1	29.66	753.4	32.5	0.3	91	W	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	Prof. D. C. Bruno.
Genoa	29.48	748.7	29.67	753.6	43.7	6.5	65	SW	2.5	1.1	.....	.....	10	SW	.....	0.394	10.0	.....	Prof. G. M. Garibaldi.
Florence	29.42	747.3	29.68	753.8	46.2	7.9	80	E	.....	.....	2	.....	10	SE	.....	0.429	10.9	.....	Cav. F. Meucci.
Leghorn	29.57	751.0	29.65	753.2	41.7	5.4	78	E	1.8	0.8	.....	.....	10	.....	.....	0.921	23.4	.....	Prof. P. Monte.
Pesaro	29.63	752.7	29.69	754.0	49.3	9.6	58	S	9.4	4.2	.....	.....	10	S	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.57	751.0	29.74	755.5	46.8	8.2	80	S	9.4	4.2	.....	.....	10	.....	.....	0.559	14.2	.....	Prof. P. S. Ferrari.
Lecce	29.66	753.3	29.91	759.8	56.5	13.6	50	SSW	24.8	11.1	.....	.....	5	S	.....	0.024	0.6	.....	Prof. C. De Giorgi.
Cagliari	29.59	751.6	29.78	756.5	47.7	8.7	70	Calm	.....	.....	0	.....	9	W	.....	0.276	7.0	.....	Prof. A. Pacinotti.
Cosenza	29.02	737.2	29.91	759.7	54.7	12.6	74	SE	1.8	0.8	.....	.....	5	.....	.....	0.335	8.5	.....	Prof. D. Conti.
Palermo	29.61	752.0	29.86	758.5	54.9	12.7	40	WSW	25.5	11.4	.....	.....	1	.....	.....	0.067	1.7	.....	Prof. G. Cacciatore.
Syracuse	29.91	759.7	29.98	761.6	58.3	14.6	57	S	13.7	6.1	.....	.....	7	SW	.....	0.079	2.0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.26	743.3	29.82	757.4	50.5	10.3	58	SSW	13.0	5.8	.....	.....	10	.....	.....	0.134	3.4	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.23	767.8	30.25	768.3	47.2	8.4	84	NNE	5.6	2.5	.....	.....	0	.....	.....	0	0	Clear	K. Sasaki.
Nagasaki, I. M. Obs'y	29.98	761.5	30.19	766.8	48.8	9.3	86	Calm	0	0	.....	.....	0	.....	.....	0	0	Clear	S. Takehayashi.
Tokei (Yeddo) Observatory	30.22	767.6	30.29	769.3	46.7	8.2	87	ESE	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	P. Ceballos.
Guadalajara	25.03	635 8	30.17	766.3	38.0	3.5	45	NW	.....	.....	2	0	0	.....	.....	0	0	Fine	Prof. L. Perez.
Leon	24.39	619.7	30.05	763.3	51.1	10.6	73	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	Prof. M. Leal
Mexico, Central Obs'y	23.01	584.6	30.15	765.8	45.5	7.5	60	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Bright	M. V. de Leon, M. E.
Tlacotalpam	29.80	757.0	29.82	757.3	69.8	2.1	90	S	.....	.....	3	1	0	NW	.....	0	0	Foggy	M. M. Cházaro.
San Luis Potosi	24.63	625.6	30.14	765.6	53.0	11.7	75	N	.....	.....	1	4	0	N	.....	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	29.83	757.6	29.86	758.3	71.6	22.0	91	NW	.....	.....	.....	2ck	4ks	.....	.....	Inap.	Inap.	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.30	592.1	30.07	763.6	41.0	5.0	72	NE	0.9	0.4	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.34	719.8	30.01	762.3	70.9	21.6	71	NNE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.76	755.9	29.89	759.3	70	21.1	.....	Calm	.....	.....	0	.....	2cs	.....	.....	0	0	Clear	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.8	29.87	758.8	32.4	0.2	.....	NNE	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	.....	.....	.....	.....	33.8	1.0	.....	N	.....	.....	5	.....	.....	.....	.....	0.059	1.5	.....	
Helder	29.86	758.4	29.86	758.4	30.9	— 0.6	.....	N	.....	.....	5	.....	.....	.....	.....	0.016	0.4	.....	
Hellevoetsluis	29.83	757.7	29.83	757.7	31.5	— 0.3	100	NNE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.78	756.4	29.83	757.6	30.7	— 0.7	94	NNE	.....	.....	5	.....	10	.....	.....	0 073	4.4	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the co-operation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.04	762.9	30.09	764.3	34.2	1.2	68	S	11.0	4.9	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.99	761.7	30.03	762.7	28.0	— 2.2	51	SSE	9	4	.....	.....	0	.....	.....	0	0	.....	
Ohristiania	30.02	762.4	30.17	766.4	24.1	— 4.4	63	NE	2	1	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.91	759.7	29.95	760.8	25.2	— 3.8	78	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.29	769.3	30.48	774.2	57.6	14.2	72	E	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.3	30.21	767.2	45.0	7.2	40	N	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.15	765.9	30.24	768.1	60.3	15.7	51	NNE	8.1	3.6	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.87	758.8	30.24	768.2	46.9	8.3	39	N	16.1	7.2	.....	.....	1	.....	.....	0.043	1.1	.....	The Staff.
Ponta Delgada, (Azores)	30.39	771.9	30.46	773.3	63.3	17.4	56	NE	13.7	6.1	.....	.....	5	.....	.....	0.094	2.4	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m

Portuguese Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd't.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.82	757.5	84.2	29.0	.....	WSW	.....	.....	1	.....	0	.....	.....	1	wsw	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da Silva Costa, Porto Praya, Cape Verd Islands	.....	.....	29.97	761.2	74.1	23.4	.....	Var.	.....	.....	3	.....	5	.....	Var.	2	Var.	Drizzling	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.72	755.0	86.0	30.0	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	29.89	759.2	63.3	17.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. M. T. Guimaraes, Com'd't.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.16	740.7	29.59	751.6	42.8	6.0	87	E	9	4	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.34	745.1	29.77	756.1	35.8	2.1	82	ENE	4	2	.....	.....	10	.....	.....	.....	.....	Heavy clouds ..	Astronomical Obs.
Dorpat	29.89	759.1	30.14	765.6	25.5	— 3.6	91	NE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.18	766.6	30.20	767.0	25.3	— 3.7	82	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.13	740.0	29.77	756.2	47.3	8.5	83	SE	11	5	.....	.....	8c;ks	.....	.....	.....	.....	Solar corona.	Physical Cabinet.
Nikolaiev	29.87	758.7	29.94	760.5	59.2	15.1	57	S	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.13	765.2	30.15	765.7	51.4	10.8	77	ESE	9	4	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.58	751.3	30.15	765.8	34.7	1.5	87	E	4	2	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.01	762.3	30.22	767.6	44.1	6.7	58	SE	9	4	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	30.17	766.4	30.19	766 9	20.1	— 6.6	87	NE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	29.08	738.5	30.55	776.0	42.6	5.9	67	SE	9	4	.....	.....	8cs	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	38.76	781.2	30.67	779.1	27.5	— 2.5	64	SE	18	8	.....	.....	10ks	.....	.....	Blank	Blank	.....	Capt. Wisganow.
Irotkowo*	29.96	761.0	30.48	774.1	18.7	— 7.4	87	S	22	10	.....	.....	10	.....	.....	.....	.....	Snowing	Cand. Fatjanow.
Kasan	30.09	764.2	30.38	771.6	20.3	— 6.5	82	S	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Ekaterinburg	29.50	749.2	30.56	775.9	15.8	— 9.3	70	SW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	30.39	772.0	30.65	778.4	20.5	— 6.4	100	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.86	733.1	30.70	779.9	27.7	— 2.4	96	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	30.36	771.2	30.95	786.1	— 7.8	—22.1	76	S	9	4	.....	.....	10	.....	.....	.....	.....	Snowing	Meteorological Obs.
Yeniseisk	30.41	772.4	30.74	780.8	— 6.0	—21.1	76	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Peking, (China)	29.91	759.7	30.05	763.3	35.2	1.8	91	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	30.34	770.5	30.43	773.0	25.7	— 3.5	89	Calm	0	0	.....	.....	10n	.....	.....	Blank	Blank	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.6 feet; Tashkend 455? m., or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.68	753.8	29.79	756.6	45.5	7.5	40	NW	2.6	1.17	.....	.....	1k	.....	.....	0	0	.....	Antonio Rave, Director
Bilbao, Met. Obs'y	30.04	763.0	30.10	764.5	43.2	6.2	88	NW	2.5	1.12	.....	.....	10	.....	.....	0.587	14.9	Snowing	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.06	687.4	.....	.....	32.4	0.2	89	NW	7.2	3.20	.....	.....	10	.....	.....	0.028	0.7	Covered. ..	Domingo Martin y Perez.
Madrid, Royal Observatory	27.82	706.5	.....	.....	39.7	4.3	63	W	11.9	5.34	.....	0	2	.....	.....	Inap.	Inap.	Light clouds	The Staff.
Murcia, Met. Obs'y	29.85	758.1	30.00	762.0	54.9	12.7	49	NW	5.0	2.22	.....	1	1	SSE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.32	744.6	30.26	768.5	37.6	3.1	87	N	0	0	.....	.....	10	.....	.....	0.343	8.7	Snowing	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I	29.92	759.9	29.98	761.6	66.2	19.0	88	ENE	0.9	0.4	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	29.76	756.0	29.82	757.4	81.6	27.6	76	ESE	8.5	3.8	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.08	764.0	30.18	766.6	49.3	9.6	62	N	4.9	2.2	.....	0	3	.....	E	0	(	.....	Capt. C. Pujazon, R. N. D'r.
San Juan de Porto Rico, W. I.	29.91	759.6	30.00	761 9	74.5	23.6	89	SE	0	0	.....	4k	9k	SE	SE	0.020	0.50	Cloudy	Leonardo de Tejeda, Ch't. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.27	768.8	30.31	769.8	18.0	— 7.8	.....	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	30.21	767.4	30.26	768.7	20.1	— 6.6	95	E	.....	.....	4	.....	10	.....	.....	0.016	0.4	.....	
Hernosand	30.20	767 1	30.25	768.4	22.3	— 5.4	87	NE	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	
Stockholm	29.93	760.2	30.11	764.7	23.7	— 4.6	90	NNE	.....	.....	4	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.86	758.4	29.92	759.9	27.7	— 2.4	87	E	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.06	763.4	30.13	765.3	23.7	— 4.6	86	NE	9.8	4.4	.....	.....	10	.....	.....	0.002	0.05	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.28	718.4	29.77	756 2	34.9	1.6	74	SSW	.....	.....	2	.....	2	.....	.....	0.067	1.7	Clear	The Observatory.
Zurich	28.03	711.9	29.75	755.6	32.7	0.4	69	W	.....	.....	1	.....	5	.....	.....	0.055	1.4	Fair	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —7.3 mm.; Thermometer, —3.5 cent.; Relative Humidity, +7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.96	761.1	68 2	20.1	47	WSW	14	6.5	.....	.....	10	.....	.....	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.98	761.4	54.5	12.5	.....	S	.....	.....	2	.....	10	.....	.....	0.83	21.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.01	762.2	30.13	765.3	69.1	20.6	68	NE	.....	.....	1	.....	8c	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.06	763.5	30.13	765.3	18.1	— 7.7	74	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.19	741.4	29.51	749.5	21	— 6.1	.....	NE	1	0.4	.....	.....	10s	.....	NE	0.42	10.7	Cloudy	W. R. Bigg.
*Chatham, N B	30.10	764.5	30.17	766.3	14	—10.0	93	NE	3	1.3	.....	.....	10s	.....	NE	0.07	1.8	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.19	766.8	30.23	767.8	18	— 7.8	97	E	4	1.8	.....	.....	10n	.....	Calm	0.150	3.81	Light snow	H. J. Cundall, C. E.
Cornwall, Ontario	29.36?	744.2?	29.05?	737.9?	22.4	— 5.3	100	NE	.....	.....	2	.....	10s	.....	.....	0.50	12.7	Overcast	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.49	12.4	.....	W. H. Bevis.
*Father Point, Quebec	29.99	761.7	30.02	762.5	16	— 8.9	74	SE	10	4.5	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	J. McWilliams.
Fredericton, N. B	30.02	762.5	30.08	764.0	17.7	— 7.9	94	E	6	2.7	.....	.....	10n	.....	.....	0.24	6.1	Light snow	Prof. Harrison.
*Fort Garry Manitoba	29.68	753.9	30.72	780.3	—40	—40.6	100	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.87	720.6	29.53	750.0	19	— 7.2	.....	SW	.....	.....	3	.....	10n	.....	.....	0.10	2.5	Overcast	James Grant.
*Halifax, N. S	29.97	761 2	30.11	764.8	30	— 1.1	98	SE	9	4.0	.....	.....	10n	.....	.....	0.110	2.79	Sleeting	F. Allison, M. A.
Hamilton, Ontario	29.09	738.9	29.48	748.8	23.7	— 4.6	93	SW	.....	.....	1	10cs	0	SW	.....	0.61	15.5	Snowing	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	29.14	740.1	29.49	749.0	20	— 6.7	93	N	11	4.9	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.35	770 9	30.40	772.1	20.9	— 6.2	100	SW	8	3.6	.....	0	0	.....	.....	0.050	1.27	Overcast	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	29.39	746.5	29.60	751.8	20	— 6.7	93	E	12	5.4	.....	.....	10n	.....	.....	0.32	8.1	Light snow	C. H. McLeod, C. E
*Parry Sound, Ontario	28.74	730.0	29.48	748.8	12	—11.1	90	N	2	0.9	.....	.....	10n	.....	N	0.13	3.3	Light snow	Rev. R. Mosley.
Peterboro, Ontario	28.64	727.4	29.43	747.5	19.4	— 7.0	82	Calm	.....	.....	.....	.....	10n	.....	.....	0.45	11.4	Snowing	J. F. Jeffers, B. A.
Port Dover, Ontario	28.81	731.8	29.52	749.8	29	— 1.7	100	SW	17	7.6	.....	.....	10n	.....	.....	0.73	18.5	Threatening	H. Morgan.
Port Hastings, N. S	30.22	767.6	30.27	768.8	27.5	— 2.5	.....	E	10	4.5	.....	.....	.....	.....	.....	0.40	10.2	Snowing	Peter Grant.
Port Stanley, Ontario	29 91	784.3	29 59	751.6	24	— 4.4	89	SW	12	5.4	.....	.....	10n	.....	W	0.47	11.9	Cloudy	M. Payne.
*Quebec, Quebec	29.50	749.3	29.84	757.9	16	— 8.9	100	NE	.....	.....	6	.....	10n	.....	NE	0.04	1.0	Light snow	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.01	736.8	29.50	749.3	13	—10.6	81	E	6	2.7	.....	.....	10n	.....	.....	0.14	3.6	Light snow	W. H. McIntyre.
St. Andrews, N. B	29.93	760.2	29.99	761.7	20	— 8.3	93	SE	.....	.....	3	.....	10n	.....	.....	0.15	3.8	Cloudy	Dr. Gove.
St. John, N. B	29.86	758.4	30.04	763 0	25	— 8.9	94	E	10	4.5	.....	.....	10s	.....	.....	0.31	7.9	Overcast	G. Murdock, C. E.
*Saugeen, Ontario	28.74	730.0	29.49	749.0	14	—10.0	96	W	1	0.4	.....	.....	10s	.....	.....	0.25	6.3	Cloudy	K. Stewart.
Stayner, Ontario	28.60	726.4	29.43	747.5	14	—10.0	84	NE	9	4 0	.....	.....	10n	.....	NE	0.50	12.7	Cloudy	R. J. Cole.
Stratford, Ontario	28.18	715.8	29.52	749.8	19.0	— 7.2	93	W	25.0	11.2	.....	.....	10s	.....	.....	0.40	10.2	Overcast	C. J. MacGregor, M. A.
*Sydney, C. B	30.37	771.4	30.41	772.4	18	— 7.8	94	E	2	0.9	.....	.....	10n	.....	.....	0.01	0.3	Light snow	T. C. Hill.
*Toronto, Ontario	29.07	738.4	29.47	748.5	21	— 6.1	94	W	15	6.7	.....	.....	10s	.....	W	0.210	5.33	Cloudy	Magnetic Observatory.
Windsor, N. S	30.03	762.8	30.13	765.3	27.0	— 2.8	88	E	16	7.2	.....	.....	10n	.....	.....	.....	.....	Snowing	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	19.0	— 7.2	84	S	.....	.....	.....	0	0	.....	.....	0.01	0.3	Clear	John Delany.

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.60	749.3	29.73	755.1	28	— 2.2	83	S	12	5.4	.....	.....	10s	.....	SW	0.68	17.3	Cloudy	
Alpena, Michigan	28.94	735.1	29.62	752.3	10	—12.2	79	N	10	4.5	.....	.....	10n	.....	Calm	0.58	14.7	Light snow.	
Atlanta, Georgia	28.75	730.2	29.88	758.9	56	13.3	87	SW	20	8.9	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Atlantic City, New Jersey	29.86	758.4	29.87	758.7	41	5.0	74	SW	24	10.7	.....	5c	0	W	.....	0.04	1.0	Fair	
Augusta, Georgia	29.79	756.7	29.96	761.0	52	11.1	73	S	3	1.3	.....	2cs	2s;fg	SW	sw;Calm	0	0	Fair	
Baltimore, Maryland	29.74	755.4	29.79	756.7	36	2.2	90	E	1	0.4	.....	8k	Fog	SW	Calm	0.11	2.8	Foggy	
Barnegat, New Jersey	29.83	757.7	29.85	758.2	40	4.4	91	SW	20	8.9	.....	5c	Haze	Calm	Calm	0.09	2.3	Fair	
Bismarck, Dakota	28.52	724.4	30.38	771.6	—23	—30.6	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.78	729.7	30.09	764.3	36	2.2	61	N	36	16.1	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.23	691.6	30.19	766.8	40	4.4	82	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	29.76	755.9	29.93	760.2	24	— 4.4	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.39	9.9	Dense fog	
Brackettville, Texas	29.15	740.4	30.23	767.8	39	3.9	46	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.42	747.2	30.65	778.5	—30	—34.4	88	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.85	758.2	29.92	760.0	68	20.0	95	NE	3	1.3	.....	.....	10ks	.....	NE	0	0	Cloudy	
Buffalo, New York	28.77	730.7	29.47	748.5	33	0.6	89	SW	28	12.5	.....	.....	10n	.....	SW	0.42	10.7	Light rain	
Burkes, Arizona	.....	.....	.....	.....	53	11.7	14	Calm	.....	.....	0	2c	0	SW	.....	0	0	Clear	
Burlington, Vermont	29.37	746.0	29.66	753.4	27.5	— 2.5	82	S	15	6.7	.....	.....	10s	.....	SW	0.09	2.3	Cloudy	
Cairo, Illinois	29.86	758.4	30.29	769.4	20	— 6.7	56	NW	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	45	7.2	31	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	37	2.8	45	W	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Campo, California	27.47	697.7	30.05	763.3	34	1.1	69	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	54	12.2	87	S	17	7.6	.....	2k	0	SW	.....	0	0	Clear	
Cape Henry, Virginia	29.89	759.2	29.91	759.7	58	14.4	70	S	21	9.4	.....	8cs	0	S	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.03	762.8	30.05	763.3	55	12.8	87	SW	15	6.7	.....	8k	0	SW	.....	0	0	Cloudy	
Cape May, New Jersey	29.83	757.7	29.86	758.4	42	5.6	83	S	32	14.3	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Castroville, Texas	29.39	746.5	30.13	765.3	42	5.6	14	NW	16	7.2	.....	5c	0	Calm	.....	0	0	Fair	
Charleston, South Carolina	29.88	758.9	29.94	760.5	56	13.3	87	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	20	— 6.7	70	N	4	1.8	.....	0	8s	.....	N	0.04	1.0	Cloudy	
Chicago, Illinois	29.12	739.6	29.86	758.4	14	—10.0	82	W	12	5.4	.....	.....	10n	.....	Calm	0.27	6.9	Light snow.	
Cincinnati, Ohio	29.29	744.0	29.98	761.5	25	— 3.9	62	W	16	7.2	.....	4k	5ks	SW	NW	0.02	0.5	Cloudy	
Cleveland, Ohio	28.93	734.8	29.67	753.6	30	— 1.1	89	SW	10	4.5	.....	.....	10n	.....	Calm	0.67	17.0	Light rain	
Coleman City, Texas	28.50	723.9	29.31	744.5	26	— 3.3	63	N	22	9.8	.....	0	8ks	.....	N	0	0	Fair	
Columbus, Ohio	28.95	735.3	29.82	757.4	28	— 2.2	66	W	32	14.3	.....	.....	10ks	.....	W	0.65	16.5	Cloudy	
Corpus, Texas	28.35	720.1	30.16	766.1	26	— 3.3	48	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.80	756.9	30.30	769.6	36	2.2	29	NW	16	7.2	.....	5cs	5s	NW	NW	0	0	Fair	
Davenport, Iowa	29.47	748.5	30.19	766.8	— 2	—18.9	67	NW	23	10.3	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	
Deadwood, Dakota	25.39	644.9	.....	.....	21	— 6.1	86	S	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Decatur, Texas	29.21	741.9	30.48	774.2	26	— 3.3	83	N	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.52	749.8	30.38	771.6	27	— 2.8	53	N	12	5.4	.....	.....	10s	.....	N	0	0	Cloudy	
Denver, Colorado	24.81	630.2	30.03	762.8	24	— 4.4	87	SE	8	3.6	.....	8c	0	Calm	.....	0	0	Fair	
Des Moines, Iowa	29.43	747.5	30.44	773.2	—10	—23.3	77	NW	13	5.8	.....	0	0	.....	.....	0.27	6.9	Clear	
Detroit, Michigan	28.92	734.6	29.61	752.1	22	— 5.6	86	W	6	2.7	.....	.....	10n	.....	Calm	0.53	13.5	Light snow.	
Dodge City, Kansas	27.66	702.6	30.14	765.5	20	— 6.7	85	W	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Dubuque, Iowa	29.39	746.5	30.17	766.3	0	—17.8	70	NW	10	4.5	.....	.....	10s	.....	Calm	0.32	8.1	Cloudy	
Duluth, Minnesota	29.57	751.1	30.36	771.1	—15	—26.1	71	Calm	0	0	.....	0	5s	.....	Calm	0.18	4.6	Fair	
Eagle Pass, Texas	29.44	747.8	30.22	767.6	44	6.7	30	N	.....	.....	4	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.89	759.2	29.96	761.0	29	— 1.7	89	E	12	5.4	.....	.....	10n	.....	E	0.07	1.8	Light rain	
Edinburg, Texas	.....	.....	.....	.....	57	13.9	94	N	.....	.....	6	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	26.16	664.4	.....	.....	55	12.8	26	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	28.87	733.3	29.59	751.6	30	— 1.1	89	W	21	9.4	.....	.....	10s	.....	W	0.85	21.6	Cloudy	
Escanaba, Michigan	29.21	741.9	29.93	760.2	0	—17.8	70	NW	30	13.4	.....	.....	10s	.....	NW	0.12	3.0	Cloudy	
Florence, Arizona	28.50	723.9	30.10	764.5	48	8.9	43	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	28.28	718.3	.....	.....	—33	—36.1	30?	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.60	650.2	29.65	753.1	35	1.7	52	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.37	644.4	30.33	770.4	26	— 3.3	67	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter.	29.87	758.7	30.47	773.9	16	— 8.9	74	N	16	7.2	.....	2c	2ks	N	N	0	0	Fair	
Fort Griffin, Texas	29.06	738.1	30.44	773.2	25	— 3.9	62	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.58	700.5	.....	.....	1	—17.2	72	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort McKavett, Texas	28.02	711.7	29.96	761.0	29	— 1.7	78	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.14	740.1	30.36	771.1	23	— 5.0	73	N	18	8.0	.....	0	8ks	.....	NW	0	0	Cloudy	
Fort Stevenson, Dakota	28.52	724.4	.....	.....	—30	—34.4	100	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.51	724.1	30.14	765.5	45	7.2	61	N	9	4.0	.....	2ck	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.99	761.7	30.03	762.8	56	13.3	69	N	28	12.5	.....	.....	10s	.....	N	0.30	7.6	Cloudy	
Graham, Texas	29.26	743.2	30.42	772.6	24	— 4.4	74	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.03	737.3	29.71	754.6	17	— 8.3	67	N	10	4.5	.....	0	2s	.....	Calm	0.30	7.6	Fair	
Indianapolis, Indiana	29.17	740.9	30.01	762.2	13	—10.6	81	W	7	3.1	.....	.....	10n	.....	W	0.74	18.8	Light snow	
Indianola, Texas	30.00	762.0	30.03	762.8	54	12.2	49	N	42	18.8	.....	.....	10s	.....	N	0	0	Cloudy	
Jacksboro, Texas	29.21	741.9	30.50	774.7	27	— 2.8	88	N	12	5.4	.....	2cs	0	Calm	.....	0	0	Fair	
Jacksonville, Florida	30.02	762.5	30.04	763.0	57	13.9	87	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.58	751.3	30.28	769.1	— 1	—18.3	68	NW	14	6.3	.....	0	0	.....	.....	0.07	1.8	Clear	
Key West, Florida	29.97	761.2	30.01	762.2	70	21.1	85	E	6	2.7	.....	1c;k	Fog	sw;Calm	Calm	0	0	Fair	
Kittyhawk North Carolina	29.98	761.5	30.01	762.2	55	12.8	87	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	28.93	734.8	29.94	760.5	43.5	6.4	84	W	17	7.6	.....	.....	10s	.....	W	0.88	22.4	Threatening	
La Crosse, Wisconsin	29.36	745.7	30.18	766.6	0	—17.8	70	NW	14	6.3	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
La Mesilla, New Mexico	26.16	664.4	30.32	770.1	37	2.8	63	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.74	755.4	30.09	764.3	51	10.6	34	N	18	8.0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.54	750.3	30.51	774.9	1	—17.2	71	NW	16	7.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Los Angeles, California	29.66	753.4	30.01	762.2	50.5	10.3	93	E	3	1.3	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Louisville, Kentucky	29.48	748.8	30.08	764.0	23	— 5.0	60	W	20	8.9	.....	2k	2s	W	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.12	739.6	29.79	756.7	55	12.8	68	S	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Madison, Wisconsin	28.92	734.6	30.00	762.0	5	—15.0	100	NE	26	11.6	.....	.....	10n	.....	Calm	0.70	17.8	Light snow	
Marquette, Michigan	29.23	742.4	30.01	762.2	— 3	—19.4	100	NW	24	10.7	.....	.....	10n	.....	Calm	0.78	19.8	Light snow	
Mason, Texas	28.52	724.4	30.50	774.7	31	— 0.6	38	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Memphis, Tennessee	29.91	759.7	30.26	768.6	28	— 2.2	57	NW	12	5.4	.....	5c	2s	Calm	Calm	0.01	0.3	Fair	
Milwaukee, Wisconsin	29.09	738.9	29.87	758.7	9	—12.8	79	NW	25	11.2	.....	.....	10n	.....	Calm	0.28	7.1	Light snow	
Mobile, Alabama	29.94	760.5	29.99	761.7	57	13.9	100	S	5	2.2	.....	.....	10s;sm'	.....	NW	0	0	Cloudy	
Montgomery, Alabama	29.76	755.9	29.99	761.7	58	14.4	87	SW	4	1.8	.....	.....	10ks	.....	NW	0.12	3.0	Threatening	
Morgantown, West Virginia	28.55	725.2	29.57	751.1	53	11.7	73	S	13	5.8	.....	.....	10n	.....	S	0.13	3.3	Light rain	
Mt. Washington, N. H.	23.38	593.8	29.74	755.4	2	—16.7	100	SW	84	37.6	.....	.....	Fog	.....	SW	0.15	3.8	Foggy	
Nashville, Tennessee	29.02	752.3	30.19	766.8	29	— 1.7	78	W	5	2.2	.....	0	5ks	.....	SW	0.31	7.9	Fair	
New Haven, Connecticut	29.75	755.6	29.87	758.7	23	— 5.0	100	NE	5	2.2	.....	.....	10s; fg	.....	Calm	0.15	3.8	Cloudy	
New London, Connecticut	29.83	757.7	29.88	758.9	32	0.0	100	NE	4	1.8	.....	.....	10s;sme	.....	Calm	0.12	3.0	Cloudy	
New Orleans, Louisiana	29.92	760.0	29.98	761.5	61	16.1	88	W	6	2.7	.....	.....	10n	.....	SW	0.02	0.5	Light rain	
Newport, Rhode Island	29.87	758.7	29.92	760.0	32	0.0	89	Calm	0	0	.....	.....	Fog	.....	.....	0.13	3.3	Dense fog	
New York, New York	29.65	753.1	29.84	757.9	32	0.0	79	E	8	3.6	.....	Haze	Fog	.....	Calm	0.15	3.8	Dense fog	
Norfolk, Virginia	29.88	758.9	29.94	760.5	56	13.3	81	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	27.27	692.6	30.12	765.0	7	—13.9	77	N	5	2.2		8ck	2s	W	Calm	0.08	2.0	Cloudy	
Olympia, Washington Ter.	29.78	756.4	29.82	757.4	45.2	7.3	92	S	20	8.9			10n		S	0.84	21.3	Light rain	
Omaha, Nebraska	29.22	742.2	30.61	774.9	— 9	—22.8	79	NW	16	7.2		0	0			0.13	3.3	Clear	
Oswego, New York	29.18	741.2	29.80	749.3	40	4 4	82	SE	12	5.4			10s			0.31	7.9	Cloudy	
Pembina, Dakota	29.67	753.6	30.70	779.8	—42	—41.1		NW	6	2.7		0	0			Inap	Inap.	Clear	
Philadelphia, Pa	29.74	755.4	29.80	756.9	30	— 1.1	89	NE	5	2.2		5k	Fog	SW	Calm	0.09	2.3	Fair	
Phœnix, Arizona	28.80	731.5	30.62	777.7	50	10.0	52	E	1	0.4		0	0			0	0	Clear	
Pike's Peak, Colorado	17.56	446.0	29.77	756.1	2	—16.7	44	NW	56	25.0		5cs	0	NW		0.02	0.5	Fair	
Ploche, Nevada	24.14	613.1	29.91	759.7	41	5.0	33	NW	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	28.81	731.8	29.61	752.1	43	6.1	83	NW	18	8.0			10n		NW	0.45	11.4	Light rain	
Port Huron, Michigan	28.89	733.8	29.58	751.3	21	— 6.1	100	W	16	7.2			10n		W	0.18	4.6	Light snow	
Portland, Maine	29.89	759.2	29.94	760.5	22	— 5.6	86	N	12	5.4			10s		Calm	0.10	2.5	Cloudy	
Portland, Oregon	29.93	760.2	30.03	762.8	48.3	9.1	94	S	13	5.8			10n			0.50	12.7	Light rain	
Prescott, Arizona	24.76	628.9	30.12	765.0	32	0.0	59	E	1	0.4		0	0			0	0	Clear	
Pilot Point, Texas	29.14	740.1	29.97	761.2	51	10.6	93	N	14	6.3		5k	5s	NW	N	0	0	Cloudy	
Punta Rassa, Florida	30.03	762.8	30.05	763.3	62	16.7	88	E	6	2.7		2k	0	SE		0	0	Clear	
Red Bluff, California	29.77	756 1	30.13	765.3	52	11.1	60	N	6	2.7		0	1s		Calm	0	0	Clear	
Rio Grande City, Texas	29.89	759.2	30.11	764.8	60	15.6	44	N	20	8.9			10s		N	0	0	Cloudy	
Rochester, New York	28.79	731.3	29.39	746.5	44	6.7	92	S	8	3.6			10s		Calm	0.32	8.1	Cloudy	
Roseburg, Oregon	29.58	751.3	30.15	765.8	50.0	10.0	86	E	1	0.4			10s		Calm	Inap.	Inap.	Cloudy	
Sacramento, California	30.03	762.8	30.11	764.8	50	10.0	93	Calm	0	0		0	0			0	0	Clear	
St. Louis, Missouri	29.66	753.1	30.29	769.4	9	—12.2	57	NW	30	13.4		0	0			Inap.	Inap.	Clear	
St. Marks, Florida	30.02	762.5	30.04	763.0	46	7.8	100	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minnesota	29.37	746.0	30.33	770.4	—12	—24.4	50	NW	11	4.9		0	8s		NW	0.03	0.8	Fair	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	39	3.9	38	Calm	0	0			10s		Calm	0	0	Cloudy	
San Antonio, Texas	29.45	748.0	30.06	763.5	40	4.4	81	N	16	7.2		0	0			0	0	Clear	
San Diego, California	29.96	761.0	30.03	762.8	63.5	11.9	100	Calm	0	0			Fog			0	0	Foggy	
Sandusky, Ohio	29.60	736.6	29.68	753.9	29	— 1.7	78	W	24	10.7			10s		W	0.55	14.0	Cloudy	
Sandy Hook, New Jersey	29.79	756.7	29.82	757.4	31	— 0.6	89	NE	6	2.7		1cs	Fog	N	Calm	0.20	5.1	Foggy	
San Francisco, California	30.06	763.5	30.13	765.3	51	10.6	86	Calm	0	0		0	0			0	0	Clear	
Santa Fé, New Mexico																			
Savannah, Georgia	29.93	760.2	30.02	762.5	57	13.9	87	SW	8	3.6		0	Fog		Calm	0	0	Clear	
Shreveport, Louisiana	29.98	761.5	30.20	767.1	41	5.0	41	N	10	4.5			10s		N	0.08	2.0	Cloudy	
Silver City, New Mexico	24.31	617.5	30.58	776.7	40	4.4	47	SW	1	0.4		0	0			0	0	Clear	
Smithville, North Carolina	30.02	762.5	30.05	763.3	55	12.8	93	S	16	7.2		0	1ks;1hs		s;Calm	0	0	Clear	
Springfield, Massachusetts	29.73	755.1	29.86	758.4	26	— 3.3	74	N	1	0.4			10s		N	0.39	9.9	Cloudy	
Stockton, Texas	27.27	692.6	30.27	768.8	28	— 2.2	54	NE	8	3.6		0	0			0	0	Clear	
Thatcher's Island, Mass	29.86	758.4	29.92	760.0	35	1.7	80	SE	7	3.1			Fog		SW	0.18	4.6	Foggy	
Toledo, Ohio,	28.97	735.8	29.67	753.6	27	— 2.8	100	SW	24	10.7			10n		Calm	0.35	8.9	Light snow	
Tucson, Arizona	27.55	699.8	30.10	764.5	46	7.8	47	S	2	0.9		0	0			0	0	Clear	
Umatilla, Oregon	29.63	752.6	30.13	765.3	40.0	4.4	96	SW	4	1.8			10s		W	0.01	0.3	Cloudy	
Unalashka, Aleutian Islands					20	— 6.7	100	NW			2		10s		NW	Blank	Blank	Cloudy	
Uvalde, Texas	29.38	746.2	30.25	768.3	42	5.6	14	N	12	5.4		0	0			0	0	Clear	
Vicksburg, Mississipp	29.92	760.0	30.19	766.8	45	7.2	46	NE	11	4.9			10s		Calm	0.45	11.4	Cloudy	
Virginia City, Montana	24.24	615.7	29.72	754.9	28	— 2.2	66	Calm	0	0			10s		Calm	0	0	Cloudy	
Visalia, California	29.73	755.1	30.11	764.8	50	10.0	86	SE	4	1.8		0	0			0	0	Clear	
Washington, D. C	29.65	753 1	29.77	756.1	34	1.1	90	S	3	1.3			10ks		SW	0.10	2.5	Cloudy	
Wickenburg, Arizona					49	9.4	51	NW			1	5c	0	Calm		0	0	Fair	
Wilmington, N. Carolina	29.92	760.0	30.00	762.0	57	13.9	81	S	7	3.1		0	0			0	0	Clear	
Winnemucca, Nevada	25.77	654.6	30.13	765.3	43	6.1	36	SW	10	4.5		5k	0	SW		0	0	Fair	
Wood's Holl, Mass	29.89	759.2	29.93	760.2	40	4.4	81	SW	10	4.5			10s		Calm	0.08	2.0	Cloudy	
Yankton, Dakota	29.14	740.1	30.07	770.0	—15	—26.1	74	NW	8	3.6		0	0			0.02	0.5	Clear	
Yuma, Arizona	29.77	756.1	29.94	760.5	54	12.2	74	Calm	0	0		0	0			0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.71	729.2	30.29	769.4	9	—12.8	78												J. B. Gordon.
Havana, Cuba, W. I	29.95	760.7	30.00	762.0	68	20.0	84	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I																			James Gall.
Medellin, Colombia, S. A																			Thomas Herran.
Navassa, W. I	29.86	758.4	29.94	760.5	76	24.4		E	29.1	13.0						0.70	17.8	Cloudy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	82	27.8	93	NE			3	3c	5k	E		0	0	Fair	C. J. Hering.
Santiago de Cuba, W. I																			Robert Mason.
St. Thomas, W. I																			G. O. Gellich.
York Factory, B. A	30.21	767.3	30.27	768.8	—37.0	—38.3		NW	24	10.7		2c	2s	NW	NW	0.01	0.3	Squally	J. Fortescue, & W. Wood

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,181.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,338 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,037.9 ft., or 313.3 m.; Medellin 4,676 ft., or 1,486.2 m.; Mt Washington, 6,286 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,642 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,060 (?) ft., or 624.9 (?) m.; Winnemucca, 4,385.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.96 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	30.09	764.3	50	10.0	50	10.0	72	NW	1	0.4	....	.....	5	.....	N	0	0	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.10	764.5	62	16.7	62	16.7	88	S	3	1.3	.....	.....	2	.....	W	0.38	9.7	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.97	761.2	50	10.0	22	— 5.6	73	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan.....*	30.28‡	769.1‡	.....	.....	48.4	9.1	85	Calm	.....	.....	0	.....	0	.....	.....	0.04	1.0	.....	.....	Clear.....	
Adams. Panama	29.90	759.4	77	25.0	76	24.4	95	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Alaska. Pichilinque Bay, Mexico	30.04	763.0	71	21.7	63	17.2	83	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky.....	
Alliance, Villafranca, France.....	29.67‡	753.6‡	.....	.....	51	10.6	39	W	.....	.....	0–1	.....	10	.....	Calm	.....	.....	Light	S	Threatening	
Ashuelot, Hong-Kong, China.	29.81‡	757.2‡	.....	.....	63	17.2	94	E	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
Canonicus, New Orleans, La.....	29.85	758.2	45	7.2	60	15.6	94	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	29.80	756.9	30	— 1.1	29	— 1.7	100	NE	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Dense fog....	
Constitution, Lisbon, Portugal.....	30.23‡	767.8‡	.....	.....	51	10.6	65	NNE	.....	.....	3	.....	1	.....	Calm	.....	.....	.....	.....	Clear.....	
Despatch, Constantinople, Turkey	29.97‡	761.2‡	.....	.....	70	21.1	36	SW	.....	.....	4	.....	2	.....	SW	.....	.....	.....	.....	Clear.	
Franklin, Norfolk, Va.....	30.06	763.5	63	17.2	58	14.4	76	S	10.6	4.7	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy.....	
Gettysburg, Genoa, Italy	29.71‡	754.6‡	.....	.....	48	8.9	78	NE	.....	.....	1–2	.....	0	.....	.....	0	0	Smooth	.....	Blue sky.....	
Hartford, Montevideo, Uruguay....	29.91	759.7	70	21.1	69	20.6	75	S	.....	.....	4	.....	10	.....	S	0	0	Long	S	Cloudy.....	
Lackawana, Panama.....*	29.66‡	753.4‡	.....	.....	75	23.9	95	WNW	.....	.....	0–1	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.....†	29.70	754.4	.....	.....	30	— 1.1	78	SSW	.....	.....	7	.....	10	.....	.....	.....	.....	.....	.....	Overcast....	
Monocacy, Ning Po, China.....*	29.96‡	761.0‡	.....	.....	56	13.3	94	E	.....	.....	3–4	.....	10	.....	E	.....	.....	.....	.....	Squally.....	
Monongehela, Yokohama, Japan .....*	30.23‡	767.8‡	.....	.....	43	6.1	??	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	.....	Blue sky.....	
New Hampshire, Port Royal, S. C.....	30.01	762.2	58	14.4	57	13.9	100	S	10	4.5	.....	.....	2	.....	S	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....†	29.98	761.5	.....	.....	66	18.9	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	29.96	761.0	37	2.8	33	0.6	100	ENE	.....	.....	3	.....	10	.....	E	.....	.....	.....	.....	Misty.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	36	2.2	80	Calm	.....	.....	0	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Pensacola, S. 38° 12′, W. 87° 50′.....	30.03‡	762.8‡	.....	.....	63	17.2	83	SW	5	2.2	.....	.....	10	.....	SW	0.4	10.	Long	SSW	Overcast.....	
Powhatan, Havana, Cuba	30.08	764.0	68	20.0	68	20.0	90	ESE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Hazy	
Quinnebaug, Villafranca, France.....	29.54‡	750.3‡	.....	.....	44	6.7	76	W	.....	.....	1	.....	10	.....	NE	.....	.....	Smooth	.....	Cloudy.....	
Ranger. Kobe, Japan.....*	30.22‡	767.6‡	.....	.....	54	12.2	61	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Richmond, Naples, Italy.....	29.80‡	756.9‡	.....	.....	53	11.7	80	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.87	758.7	70	21.1	69	20.6	100	SE	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Threatening	
Santee, Annapolis, Md...	29.82‡	757.4‡	.....	.....	44	6.7	84	SE	.....	.....	1	.....	10	.....	.....	0.03	0.8	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.70	754.4	48	8.9	32	0.0	.....	Calm	0	0	0	.....	8	.....	SW	0.13	3.3	.....	.....	Light fog....	
Supply, N. 22° 01′, W. 56° 25'.....	30.15‡	765.8‡	.....	.....	79	26.1	78	ESE	.....	.....	5	.....	2	.....	ESE	.....	.....	Smooth	.....	Clear.....	
Trenton. Villafranca, France.....	29.58‡	751.3‡	.....	.....	41	5.0	91	Calm	.....	.....	0	.....	10	.....	.....	0	0	None	.....	Cloudy	
Tuscarora, Acapulco, Mexico.....	29.93‡	760.2‡	.....	.....	74	23.3	86	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Wabash, Boston, Mass.....	29.94‡	760.5‡	.....	.....	25	— 3.9	62	NW	4	1.8	.....	.....	10	.....	.....	.....	.....	.....	.....	Foggy	
Wyoming, Smyrna, Turkey.....	30.10‡	764.5‡	.....	.....	66	18.9	94	SSW	.....	.....	1–3	.....	2	.....	SW	.....	.....	Smooth	SW	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada, N. 19° 10′, W. 105° 06′.†*		30.10‡	764.5‡	74	23.3	72	N			4		0			0	Light	WNW	Clear.	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.63‡	752.6‡	66	18.9	94	ENE			4		8		ENE		Smooth	ENE	Raining	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 20′, W. 161° 14′.†*		30.05‡	763.3‡	59	15.0	54	SW			6		lc		SW	0	High	SW	D. clouds	Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 32° 45′, W. 14° 59′		30.28‡	769.1‡	57.0	13.9	75	NE			5		8		N		Mod'ate	NNW	Rainy	Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Philadelphia, Pa.		29.79‡	756.7‡	35	1.7		NNE			6		8		WNW	Light			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool	†	30 22‡	767.6‡	39	3.9		NE			3		2		NE	Blank			Fair	Wm. Shackford, Chief Officer. G. H. Dodge.
S. S. Pennsylvania, Capt. Harris																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			
S. S. Hibernian																			Capt. W. Richardson.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

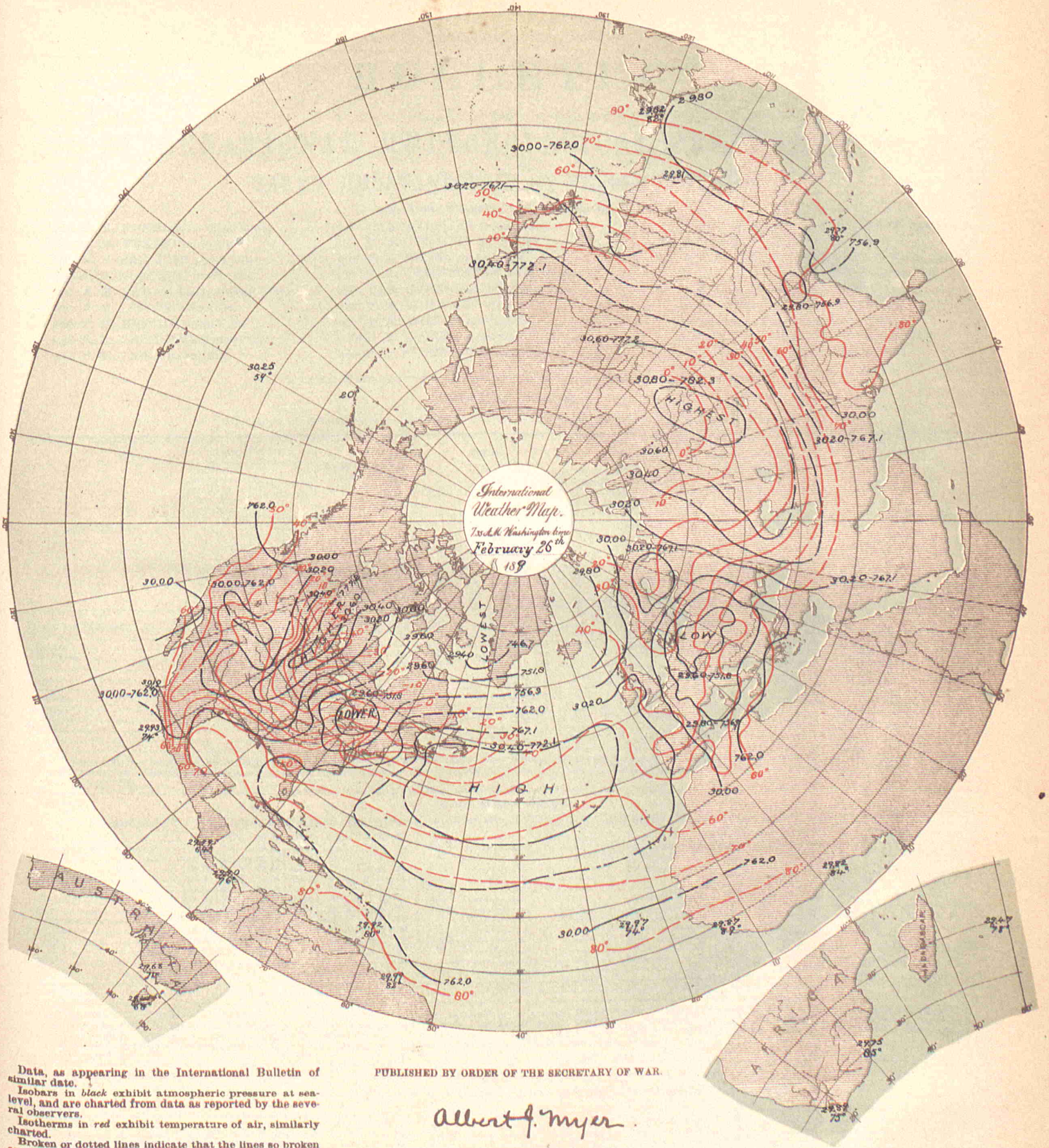
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer.

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 27, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.14	765.6	55.8	13.2	.....	NE	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	
Nemours	.....	.....	30.07	763.6	55.2	12.9	79	Calm	.....	.....	0	.....	10	.....	.....	0	0	Covered	Kesxuche.
Algiers	.....	.....	29.98	761.5	51.8	11.0	65	W	.....	.....	5	.....	0	.....	.....	0.185	4.7	Clear	Tourillere.
La Calle	.....	.....	29.99	761.8	56.1	13.4	46	W	.....	.....	4	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.01	762.3	55.6	13.1	35	WNW	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	30.04	763.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.96	760.9	44.6	7 0	67	S	.....	.....	3	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	30.01	762 3	49.6	9.8	31	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	29.91	759.8	41.7	5.4	94	N	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	Brugnlaux.
Laghouat	.....	.....	29.99	761.8	53.2	11.8	42	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.99	761.8	61.0	16.1	17	NNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.18	741.1	29.74	755.3	42.6	5.9	87	NE	.....	.....	2	.....	5	.....	.....	0.220	5.6	Raining	Prof. Ivan Stoair.
Cracow, I. R. Observatory	28.94	735.0	29.72	754.9	38.8	3.8	83	WNW	.....	.....	1	.....	10	.....	.....	0.079	2.0	.....	Dr. Wierzbiski
Eperies	28.81	731.7	29.69	754.2	45.3	7.4	86	S	.....	.....	2	.....	s;fog	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.53	724.6	29.81	757.2	37.0	2.8	80	SE	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	Andreas Rospini.
Hermannstadt	28.35	720.1	29.78	756.3	51.8	11.0	54	SE	.....	.....	4	.....	10	.....	.....	0.010	0.25	Raining	Prof. A. Gottschling.
Kremsmünster	28.41	721.6	29.79	756.7	35.4	1.9	65	WNW	.....	.....	3	.....	5	.....	.....	0.075	1.9	.....	Prof. C. Wagner.
Lemberg	28.74	730.1	29.74	755.3	47.1	8.4	71	SW	.....	.....	1	.....	7	.....	.....	0.028	0.7	.....	Dr. T. Stanecki.
Pola	29.68	753.8	29.79	756.7	44.4	6.9	79	WNW	.....	.....	4	.....	10	.....	.....	0.217	5.5	.....	I.R.Hydrographic Office.
Szathmar	29.32	744.6	29.78	756.4	50.0	10.0	67	E	.....	.....	4	.....	10	.....	.....	0.173	4.4	.....	Julius Csics, S. J.
Szegedin	29.46	748.3	29.74	755.5	44.2	6.8	88	S	.....	.....	1-	.....	10	.....	.....	0.169	4.30	.....	Karl Stancel.
Trieste	29.69	754.2	29.80	756.8	48.3	6.8	93	Calm	.....	.....	0	.....	10	.....	.....	0.157	4.0	Raining	P. Busin.
Vienna	29.02	737.2	29.76	755.8	39.2	4.0	48	W	.....	.....	5	.....	7	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.73	755.1	29.94	760.4	33.4	0.8	75	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Royal Observatory
Furnes	29.95	760.8	29.98	761.4	37.8	3.2	68	NNW	.....	.....	2	.....	8	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.78	756.5	29.91	759.7	31.8	— 0.1	90	NNW	.....	.....	2	.....	10	.....	.....	0.087	2.2	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.62	752.3	29.72	754.9	47.6	8.7	.....	SSW	10	4.5	.....	.....	8	.....	.....	0	0	Misty.....	W. Boswell.
Ardrossan	29.80	756.9	29.81	757.2	43.2	6.2	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	Misty.....	William McNeil.
Armagh, Observatory	.....	.....	29.88	758.9	46.1	7.8	.....	SW	14	6.3	.....	.....	10	.....	.....	.....	.....	Drizzling....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.90	759 4	44.1	6.7	.....	W	16	7.2	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Bolton, (Sharples)	.....	.....	29.90	759.4	37.6	3.1	.....	WNW	18	8.0	.....	.....	10	.....	.....	.....	.....	Foggy	Thomas Mackereth.
Bradford, Yorkshire	29.47	748.5	29.87	758.7	43.7	6.5	.....	NW	.....	.....	1	.....	8	.....	.....	0.01	0.3	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	29.88	758 9	29.91	759.7	81	27.2	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. Surgener, A. H. C.
Cambridge, Observatory	.....	.....	29.93	760.2	39.0	3.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Snowing....	H. Todd.
Cardington	.....	.....	29.91	759.7	37.0	2.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham, School M. E.	29.83	757.7	29.96	761.0	40.1	4.5	.....	Calm	.....	.....	0	.....	9	.....	.....	Blank	Blank	Overcast....	Corpl. Daly, R. E.
Dartmoor	28.45	722.6	29.95	760.7	38.0	3.3	.....	SE	.....	.....	5	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	29.83	757.7	29.87	758.7	47	8.3	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	J. Mac Gowan.
Dover	29.92	760.0	29.94	760.5	39	3.9	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	Misty.....	J. Costello.
Falmouth, Observatory	29.79	756.7	30.03	762.8	48.5	9.2	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy.....	The Staff.
Fort Napier, (Natal)	27.28	692 9	29 59	751.6	86.0	30.0	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.65	753.1	29.88	758.9	88	31.1	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D, clouds....	
Galway, Queen's College	.....	.....	29.86	758.4	48	8.9	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.99	761.7	30.05	763.3	55.2	12.9	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.60	751.8	29.81	757.2	44.2	6.8	.....	SSW	.....	.....	4	.....	.....	.....	.....	.....	.....	Overcast	D. G. Maclean.
Great Yarmouth	29.94	760.5	29.95	760.7	35	1.7	.....	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.78	756.4	29.96	761.0	37.4	3.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy.
Guernsey	29.77	756.1	30.00	762.0	45	7.2	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S.
Helston	29.96	761.0	30.08	764.0	49	9.4	.....	NW	.....	.....	0	.....	10	.....	.....	0	0	Foggy	M. P. Moyle.
Holyhead	29.84	757.9	29.89	759.2	44	6.7	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	John Tilston.
Jersey	29.71	754.6	30.02	762.5	43.8	6.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy.....	J. Fisher.
Kew, Observatory	29.93	760.2	29.96	761.0	36.8	2.7	.....	E	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty.....	The Meteorological Of.
Leicester, Museum	29.65	753.1	29.92	760.0	36.9	2.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.96	761.0	30.01	762.2	65	18.3	.....	NE	.....	.....	1	.....	3k	.....	.....	.....	.....	Blue sky....	Sergt. H. J. Beckett, A. H. C.
Nairn	29.60	751.8	29.69	754.1	49	9.4	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.99	759.7	73.0	22.5	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.72	754.9	29.92	760.0	42.9	6.1	.....	Calm	.....	.....	0	.....	10	.....	.....	0.020	0.51	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.38	746.2	29.92	760.0	41.7	5.4	.....	W	.....	.....	0-1	.....	10	.....	.....	.....	.....	Foggy.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.93	760.2	39	3.9	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling....	H. E. Bellamy.
Plymouth	29.91	759.7	29.98	761.5	49.0	9.4	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	John Merrifield.
Roche's Point	29.93	760.2	29.98	761.5	49	9.4	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	W. Kennedy.
Saint Ann's Head	29.81	757.2	29.97	761 2	45	7.2	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.62	752.3	45.9	7.7	.....	SW	10	4.5	.....	.....	5	.....	.....	.....	.....	D. clouds....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	30.01	762.2	58.2	14.6	.....	WSW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	W. H. Lyne.
Sheffield	29.62	752.3	29.90	759.4	46.0	7.8	.....	W	.....	.....	1	.....	8	.....	.....	0	0	Overcast....	W. F. Cooper.
Silloth Rectory	29.83	757.7	29.86	758.4	46.2	7.9	94	Calm	.....	.....	0	.....	10	.....	.....	0.050	1.27	Overcast.....	Francis Redford, A. M.
Stonyhurst Observatory	29.49	749.0	29.89	759.2	42.3	5.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Rev. S. J. Perry.
Straifield Turgiss	29.76	755.9	29.98	761.5	36.3	2.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	C.H.Grimm, F. R.S.
Thurso	29.57	751.1	29.63	752.6	46	7.8	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	John Trotter.
Truro, Royal Institution	.....	.....	29.99	761.7	50	10.0	.....	NW	.....	.....	6	.....	8	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.95	760.7	29.99	761.7	50.1	10.1	.....	WSW	16	7.2	.....	.....	9	.....	.....	Blank	Blank	Misty.....	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.94	760.5	29.99	761.7	70.2	21.2	51	NW	16	7.2	.....	2	6	.....	.....	0	0	Fine.....	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.62	752.3	56.0	13.3	77	NW	.....	.....	2	.....	10k	.....	.....	0	0	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.63	752.6	46.0	7.8	.....	W	.....	.....	3	.....	10k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.64	752.8	29.83	757.7	81.3	27.4	56	SSE	18.0	8.9	.....	0	1	.....	.....	0.49	12.4	Squally.....	C. Meldrum.
Melbourne, Observatory	29.82	757.4	29.92	759.9	57.0	13.9	70	SE	6	2.7	.....	.....	0	.....	.....	0	0	Clear.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.64	752.8	47	8.3	.....	SW	.....	.....	4	.....	10	.....	.....	0.2	5.	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.48	748.8	44	6.7	.....	SW	.....	.....	4	0	3	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst, as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
Brig Alliance, N. 24° 49', W. 32° 13'	.....	.....	30.17‡	766.3‡	69.2	20.7	.....	NE	.....	.....	4	.....	.....	.....	.....	D. clouds....	Capt. W. Scott.
S. S. Amanda, N. 9° 35', E. 70° 48'	.....	.....	29.86‡	758.4‡	83.8	28.8	.....	N	.....	.....	4	3	.....	.....	.....	D. clouds....	Capt. B. Boyes.
Barque Belle Isle, N. 21° 25', W. 84° 35'	.....	.....	30.00	762.0	80	26.7	.....	NNE	.....	.....	5	3	.....	3	NNE	D. clouds....	Capt. A. J. Brown.
Ship British Commodore, N. 46° 55', W. 21° 15'	.....	.....	30.25	768.3	51	10.6	.....	NW	.....	.....	6	10	.....	5	Confused.	Overcast.....	Capt. J. W. Thorne.
——City of Agra, S. 11° 00', W. 24° 50'	.....	.....	29.96‡	761.0‡	82	27.8	.....	E	.....	.....	5	8	.....	.....	.....	Showery	Capt. Thos. Young.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
——Denbighshire, S. 48° 58,' W. 21° 42'	.....	.....	30.22‡	767.6‡	47	8.3	.....	NW	.....	.....	6	8	.....	.....	.....	D. clouds....	Capt. H. Murdoch.
Barque Mertole, N. 37° 07' W. 11° 52'	.....	.....	30.19‡	766.8‡	53.2	11.8	.....	NE	.....	.....	5	9	.....	.....	.....	Overcast....	Capt. E. W. Turner.
S. S. Nizam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Barlow.
——Strathleven, N. 11° 44', E. 88° 43'	.....	.....	29.77‡	756.1‡	80	26.7	.....	N	.....	.....	3	2	.....	.....	.....	Blue sky.....	Capt. C. W. Pearson.
S. S. Wyberton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. McMontry.
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NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.29	666.2	29.95	760.7	63.5	17.5	80	SE	.....	.....	1	.....	0	.....	.....	0	0	Misty	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.67	753.5	29.71	754.7	27.3	— 2.6	89	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	.....
Fanöe	29.80	757.0	29.82	757.5	27.0	— 2.8	85	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.81	757.2	29.85	758.3	19.4	— 7.0	83	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.21	741.9	29.24	742.8	44.1	6.7	77	SW	.....	.....	5	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.65	753.0	29.82	757.3	27.7	— 2.4	89	N	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.58	751.4	30.13	765.4	34.2	1.2	96	NW	.....	.....	1	.....	10	.....	.....	0.020	0.5	Covered	Collignon, Director.
Amiens, Normal School	29.89	759.2	30.01	762.2	37.0	2.8	79	W	.....	.....	1	.....	10	.....	.....	0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.81	757.2	29.89	759.2	38.3	3.5	54	N	.....	.....	6	.....	10	.....	.....	.....	.....	Sleeting	M. Giraud, Director.
Bar-sur-Seine	29.41	747.0	30.00	762.0	33.4	0.8	89	NE	.....	.....	1	.....	10	.....	.....	0.264	6.7	Snowing	O. Saillard, Director.
Beauvais, Normal School	29.72	754.8	30.01	762.3	39.0	3.9	65	NNW	.....	.....	1	.....	5	.....	NNW	0.030	0.75	Cloudy	Frere Eugene Marie, Dir.
Besançon, Normal School	29.06	738.1	29.96	761.0	35.1	1.7	78	S	.....	.....	2	.....	10	.....	.....	0.295	7.5	Covered	A. Carré, Director.
Bourg-en-Bresse, N. School	29.12	739.7	30.02	762.6	33.3	0.7	100	NW	.....	.....	1	.....	kn	N	N	0.39	10.	.....	M. Marlot, Director.
Bourges, Normal School	29.44	747.9	30.02	762.6	35.4	1.9	68	N	.....	.....	3	.....	10	N	N	0.04	1.	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.78	756.5	30.02	762.6	45.7	7.6	88	NW	.....	.....	3	.....	10	.....	NW	.....	.....	Raining	M.de Rermaree, Director
Carcassonne, Normal School	29.64	752.8	30.07	763.8	36.7	2.6	79	NW	.....	.....	2	.....	5	W	WNW	0.08	2.	Snowing	September, Director.
Caen, Normal School	29.89	759.3	29.97	761.2	40.3	4.6	87	SSW	.....	.....	1	.....	10	.....	.....	0.047	1.2	Covered	M. Lair, Director.
Chartres, Normal School	29.37	746.1	29.96	761.1	35.6	2	80	NNW	.....	.....	1	.....	10	.....	.....	0.12	3.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.62	726.8	30.04	763.0	32.7	0.4	88	NW	.....	.....	1	.....	10	.....	NW	0.102	2.6	Snowy	Alluard, Director.
Commercy, Normal School	29.04	737.7	29.97	761.2	30.9	— 0.6	100	WNW	.....	.....	2	.....	10kn	.....	WNW	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.66	728.0	29.80	757.0	37.8	3.2	60	NW	.....	.....	4	.....	8	.....	NW	0	0	¾ covered	M. Kina, Director.
Grenoble, Normal School	29.16	740.7	29.96	761.1	33.1	0.6	.....	NW	.....	.....	3	.....	10kn	.....	N	0	0	Covered	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.94	760.4	30.16	766.1	41.0	5.0	87	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.76	755.9	30.09	764.2	37.8	3.2	76	NNW	.....	.....	1	.....	5	.....	NNW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.04	737.7	29.97	761.2	34.9	1.6	81	N	.....	.....	1	.....	10	.....	.....	0.110	2.80	Covered	Baudry, Director.
Lorient, Naval Observatory	30.00	761.9	30.10	764.5	42.4	5.8	94	SW	.....	.....	3	.....	.....	.....	SW	0	0	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galzin, Director
Mirecourt, Normal School	28.84	732.4	29.92	759.9	35.2	1.8	66	S	.....	.....	1	.....	n	.....	N	0	.0	.....	M. Barbier, Director.
Nismes, Normal School	29.09	754.1	29.90	759.4	42.1	5.6	66	SE	.....	.....	3	.....	2	.....	W	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.87	733.3	29.99	761.8	32.7	0.4	.....	N	.....	.....	1	.....	cn	N	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.91	632.7	.....	.....	14.2	— 9.9	100	W	.....	.....	8	.....	.....	.....	.....	0.984	25.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	30.11	764.9	30.16	765.7	43.5	6.4	74	N	.....	.....	1	.....	10	N	N	0.08	2.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.94	760.5	30.03	762.7	39.2	4.0	72	NW	.....	.....	4	.....	8	.....	NW	0.047	1.2	Very cloudy	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.99	761.7	30.02	762.5	39.7	4.8	92	SW	.....	.....	2	.....	10	SW	SW	.....	.....	Raining	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.84	757.9	30.00	762.1	37.2	2.9	67	NNW	.....	.....	1	.....	.....	NNW;NW	.....	0.008	0.2	Very cloudy	E. Renou, Director.
Tarbes, Normal School	28.93	734.8	30.05	763.2	39.2	4	83	SW	.....	.....	6	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Versailles Observatory	29.50	749.3	29.99	761.8	37.8	3.2	.....	N	.....	.....	1	.....	5	.....	.....	0.034	0.86	.....	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.32	744.7	30.06	763.5	33.6	0.9	93	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.3	29.92	760.0	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchesi.
Lyons Obs'y, (Park Station)	.....	.....	30.00	762.0	33.4	0.8	78	N	.....	.....	2	.....	10	.....	.....	0.008	0.2	Snowing	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.61	625.0	29.92	760.0	21.2	— 6.0	65	NNW	.....	.....	2	.....	10	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.76	756.0	48.2	9.0	66	NW	.....	.....	1	.....	8	.....	.....	0.051	1.3	¾ covered	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.72	754.8	.....	.....	38.1	3.4	60	N	.....	.....	3	.....	7	.....	NNW	0.055	1.4	.....	Marié Davy, Director.
Perpignan	29.90	759.5	30.01	762.2	38.1	3.4	63	N	16.8	7.5	.....	.....	8	.....	NW	0.008	0.2	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.23	564.7	.....	.....	14.5	— 9.7	.....	NNW	.....	.....	2	.....	8	.....	.....	0.382	9.7	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.40	746.8	30.13	765.2	33.1	0.6	92	NW	.....	.....	3	.....	10	.....	.....	0.130	3.3	.....	M. Mercadier Julier.
Tours	29.85	758.3	30.05	763.3	39.9	4.4	67	NNE	.....	.....	1	.....	7	.....	NW	0.106	2.7	.....	Cousin-Marquot.
Zi-Ka-Wei, (near Shanghai)	29.84	757.8	29.86	758.4	52.5	11.4	91	NW	13.2	5.9	.....	.....	10n	.....	.....	1.169	29.7	Covered	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,)2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-12.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.92	734.6	29.76	755.8	31.3	— 0.4	96	W			5		9	W		0.315	8.0	Snowing	Prof. Dr. Hoh.
Berlin	29.47	748.5	29.65	753.0	35.2	1.8	86	S			1		10			0.154	3.9	Snowing	Prof. Arndt.
Breslau	29.18	741.1	29.70	754.4	38.1	3.4	53	SSW			3		4			0	0		Royal University Obs'y
Carlsruhe	29.43	747.6	29.88	758.9	31.6	— 0.2	86	SW			2		10			0.307	7.8	Snowing	Albert Sena.
Cassel	29.17	741.0	29.78	756.3	29.8	— 1.2	85	NW			7		10	NW		0.114	2.90	Snowing	Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	31.1	— 0.5	88	N			4		9			0.20	5.		Director Lose.
Emden					29.7	— 1.3	92	NNE?			0?		10			0.28	7.		Prof. Prestel.
Frankfort on the Main	29.57	748.5	29.84	758.0	35.8	1.0		SW			1		10			0.087	2.2		Physical Society.
Friedrichshafen	28.41	721.5	29.80	756.9	32.2	0.1	59	WNW			7		10	W		0.028	0.7	Light snow	M. Wilhelm.
Hamburg	29.70	754.4	29.78	756.3	30.4	— 0.9	86	N			3		10			0.114	2.9		Captain F. Hegemann.
Kiel	29.77	756.2	29.79	756.6	29.3	— 1.5	90	N			3		10			0.016	0.41	Snowing	Prof. G. Karsten.
Königsberg, (Prussia)	29.61	749.5	29.69	751.6	34.0	1.1	83	W			4		10			1.000	25.4	Rain & snow	Prof. E. Luther.
Köslin			29.55	750.6	33.1	0.6		Calm			0		6			0	0		H. Müller.
Leipsic, Observatory	29.27	743.4	29.71	754.5	31.3	— 0.4	100	WNW			3		10			0.547	18.9		Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.45	748.1	29.60	749.3	34.9	1.6	91	SW			2		10n					Snowing	Skalweit.
Neufahrwasser	29.58	751.4	29.60	751.8	35.2	1.8	82	WSW			3		10			0	0		A. Lothes.
Posen	29.41	746.9	29.70	754.4	38.3	3.5	73	W			5		7			0	0		Dr. Magener.
Strassburg (in Alsace)	29.36	745.7	29.93	760.2	34.9	1.6	78	W			2		10	W		0.102	2.60	Snowing	Imp. University Observatory.
Stuttgart	28.88	733.5	29.79	756.7	32.9	0.5	83	W			1		10			0.043	1.1	Snowing	Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.27	718.0	29.85	758.2	28.2	— 2.1	83	W	11	5			10		NW	0.197	5.0		Dr. Van Bebber.
Wustrow, Naval School	29.67	753.7	29.70	754.3	29.8	— 1.2	94	NE			5		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.70	754.3	30.09	764.2	61.5	16.4		S			3.0							Smoky	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.38	746.3	29.86	758.3	81.2	27.3	34	W	5.1	2.3			6	W		0	0	D. clouds	
Bombay	29.83	757.7	29.87	758.6	82.4	28.0	60	NNW	12	5.4			9	W	SSW	0	0	D. clouds	
Lahore	29.11	739.5	29.87	758.7	70.7	21.5	45	Calm	3.9	1.7			10			0	0	Cloudy	
Belgaum	27.31	693.7	29.82	757.3	81.8	27.7	56	W	12	5.4			5		E	0	0	D. clouds	
Roorkee	28.91	734.2	29.82	757.3	72.6	22.7	28	SW	3	1.3			10			0	0	Gloomy	
Agra	29.22	742.2	29.80	756.9	71.2	21.8	27	W								0	0		
Nagpur	28.78	730.9	29.81	757.2	82.6	28.1	53	SW	1.7	0.8			9		NE	0.08	2.0	Gloomy	
Lucknow	29.42	747.2	29.79	756.7	76.3	24.6	49	NW	5.4	2.4			10			0	0	Overcast	
Allahabad	29.50	749.3	29.81	757.2	81.5	27.5	37	NW	4.5	2.0			2	W		0	0	D. clouds	
Patna	29.58	751.2	29.76	755.8	78.5	25.8	50	W	2.1	0.9			0			0	0	Blue sky	
Hazaribagh	27.78	705.6	29.79	756.8	76.6	24.8	20	W	9.6	4.3			0			0	0	Blue sky	
Cuttack	29.72	755.0	29.80	757.0	85.5	29.7	46	SSE	1.6	0.7			0			0	0	Blue sky	
Calcutta (Alipore)	29.77	756.0	29.79	756.6	77.6	25.3	46	N	1.1	0.4			0			0	0	Blue sky	
Goalpara	29.37	746.0	29.76	755.9	77.0	25.0	26	Calm	3.6	1.6			0			0	0	Blue sky	
Chittagong	29.72	755.0	29.82	757.4	77.9	25.5	62	WSW	4.5	2.0			0			0	0	Misty	
Sibsagar	29.44	747.9	29.79	756.6	70.0	21.1	65	ENE	1.7	0.8			2			0	0	Blue sky	
Jubbulpore	28.49	723.6	29.84	758.0	84.3	29.1	30	E	1.8	0.8			7	E		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.34	745.3	29.76	755.8	45.0	7.2	70	W	0.7	0.3	.....	.....	3	.....	.....	0.059	1.5	.....	Prof. Giovanni Clodig.
Padua	29.67	753.5	29.78	756.3	46.2	7.9	68	W	2.5	1.1	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Milan	29.24	742.6	29.76	756.0	45.1	7.3	46	WSW	.....	.....	2	.....	6	.....	.....	0.028	0.7	.....	Prof. Schiaparelli.
Moncalieri	28.84	732.6	29.76	755.9	39.4	4.1	63	ESE	1.8	0.8	.....	.....	6	NNW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.82	706.6	29.76	755.9	35.1	1.7	37	WNW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.58	751.3	29.78	756.3	41.0	5.0	78	NE	5.6	2.5	.....	.....	10	SW	.....	0.185	4.7	.....	Prof. G. M. Garibaldi.
Florence	29.67	751.1	29.83	757.7	46.4	8.0	67	SSW	.....	.....	2	.....	9	SW	.....	0.280	7.1	.....	Cav. F. Meucci.
Leghorn	29.72	754.9	29.81	757.1	46.4	8.0	73	W	2.5	1.1	.....	.....	10	W	.....	0.646	16.4	.....	Prof. P. Monte.
Pesaro	29.76	756.0	29.81	757.2	48.4	9.1	60	SW	10.5	4.7	.....	.....	6	SW	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.70	754.3	29.87	758.8	50.4	10.2	62	W	8.7	3.9	.....	.....	10	.....	.....	0.063	1.6	.....	Prof. P. S. Ferrari.
Lecce	29.73	755.1	29.98	761.5	54.7	12.6	57	SSW	9.4	4.2	.....	.....	6	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.69	754.1	29.88	759.0	49.1	9.5	68	W	.....	.....	2	.....	4	W	.....	0.083	2.1	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.0	29.98	761.5	50.9	10.5	67	SE	3.1	1.4	.....	.....	9	.....	.....	0.327	8.3	.....	Prof. D. Conti.
Palermo	29.74	755.4	29 99	761.8	54.5	12.5	47	WSW	9.8	4.4	.....	.....	9	WSW	.....	0.031	0.8	.....	Prof. G. Cacciatore.
Syracuse	29.92	760.0	29.99	761.8	60.6	15.9	59	ESE	1.8	0.6	.....	.....	7	WSW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.37	746.1	29.93	760.2	49.5	9.7	49	SW	4.9	2.2	.....	.....	7	.....	.....	0.272	6.9	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	30.21	767.3	30.23	767.8	51.1	10.6	86	Calm	0	0	.....	.....	10os;s	.....	.....	0	0	Cloudy	K. Sasaki.
Nagasaki, I. M. Obs'y	29.89	759.2	30.09	764.3	61 7	16.5	62	ESE	4.9	2.2	.....	.....	10s	.....	.....	0.160	3.81	Cloudy	S. Takehayashi.
Tokei (Yeddo) Observatory	30.34	770.6	30.41	772.4	48.7	9.3	86	SSE	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	P. Ceballos.
Guadalajara	25.08	637.1	30.20	767.2	42.8	6.0	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.46	621.4	30.12	765.0	54.0	12.2	77	E	.....	.....	1	0	0	.....	.....	0	0	Fog on horison.	Prof. M. Leal
Mexico, Central Obs'y	23.07	586.0	30.24	768.0	44.6	7.0	80	Calm	0	0	.....	0	3k;n	.....	.....	0.01	0.3	Fine	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	48.9	9.4	84	WSW	.....	.....	1	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.09	764.3	30.10	764.5	67.3	19.6	81	NNW	.....	.....	6	3	2	NE	N	0	0	⅛ clouded	M. M. Cházaro.
San Luis Potosi	24.15	613.4	30.27	768.9	47.0	8.3	81	ESE	.....	.....	1	0	5	.....	ESE	0	0	⅛ clouded	G. Barroeta, M. D.
Vera-Cruz	30.10	764.5	30.13	765.2	69.8	21.0	86	N	22.6	10.1	.....	2ck	5ks	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.41	594.5	30.16	766.0	45.7	7.6	27	NNE	0.9	0.4	.....	2ck	.....	Calm	.....	0	0	.....	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.37	720.5	30.04	763.1	70.7	21.5	66	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	29.95	760 9	30.08	764.2	70.5	21.4	.....	NW	.....	.....	1	6n	4n	N	N	0.591	15.0	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.1	29.97	761.1	36.7	2.6	.....	N	.....	.....	.....	.....	.....	.....	.....	0.039	1.0	.....	
Groningen	29.79	756.6	29.84	758.0	33.6	0.9	.....	N	.....	.....	2	.....	.....	.....	.....	0.071	1.8	.....	
Helder	29.91	759.8	29.91	759.8	32.0	0.0	.....	NNW	.....	.....	6	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.92	760.0	29.92	760.0	34.5	1.4	85	NNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.88	759.0	29.93	760.2	33.6	0.9	83	N	.....	.....	3	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.77	756.2	29.83	757.6	35.6	2.0	64	S	13.4	6.0	.....	.....	4	.....	.....	0.021	0.6	.....	
Brönö	29.52	749.7	29.56	750.7	37.0	2.8	55	SSW	18	8	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.65	753.1	29.61	757.1	22.6	— 5.3	71	E	2	1	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.38	746.3	29.43	747.4	35.2	1.8	85	S	34	15	.....	.....	10	.....	.....	0.024	0.6	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.34	770.7	30.54	776.6	55.8	13.2	69	NE	9.8	4.4	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.09	738.9	30.14	765.6	47.3	8.5	42	NE	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.15	765.9	30.24	768.1	57.6	14.2	55	E	3.8	1.7	.....	.....	7	.....	.....	0.142	3.6	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.82	757.3	30.19	766.7	46.9	8.3	48	NE	12.5	5.6	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.45	773.4	30.52	775.2	56.8	13.8	52	NE	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from —		
Bartholomew Dias				A. G. da Silva Costa, Com'd't.
D. Fernando				A. M. de Sande, Comd't.
India				A. D. Pedroso, Com'd't.
Mindello				J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	1	W	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro				J. T. d'Oliveria, Com'd't
Rio Lima, Capt. S. C. da SilvaCosta, Porto Praya, Cape Verd Islands	2	NE	Drizzling	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando			D. clouds	F. Teixeira da Silva, Com'd't.
Sado				L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	1	SW	Raining	J. M. T. Guimarães, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.26	743.3	29.69	754.2	41.5	5.3	66	SSW	4	2	.....	.....	7k;ks	.....	.....	.....	.....	.....	Astronomical Obs
Wilna	29.19	741.5	29.62	752.4	36.1	2.3	84	WSW	11	5	.....	.....	10	.....	.....	.....	.....	Heavy cl'ds.	Astronomical Obs.
Dorpat	29.30	744.2	29.55	750.5	32.7	0.4	98	ENE	9	4	.....	.....	10n	.....	.....	.....	.....	Light rain	Prof. Dr. Weihrauch.
St. Petersburg	29.69	754.0	29.70	754.4	29.7	— 1.3	88	E	16	7	.....	.....	10n	.....	.....	.....	.....		Central Physical Obs.
Kieff	29.22	742.3	29.86	758.4	48.0	8.9	63	SSW	7	3	.....	.....	8c;ks	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.93	760.3	30.00	762.1	55.2	12.9	63	S	9	4	.....	.....	4cs	.....	.....	.....	.....	Light clouds	Kurdakof.
Kertch	30.08	763.9	30.10	764.4	54.3	12.4	89	ESE	2	1	.....	.....	1	.....	.....	.....	.....		Lagorio.
Moscow	29.36	745.6	29.93	760.1	31.6	— 0.2	92	SSE	9	4	.....	.....	8ks	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Lugan	29.79	756.7	30.00	761.9	50.0	10.0	56	SE	13	6	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Archangel	30.08	764.1	30.10	764.6	20.8	— 6.2	93	ESE	4	2	.....	.....	10	.....	.....	.....	.....		Capt. Sseliwerstow.
Tiflis	28.90	734.0	30.36	771.2	43.9	6.6	53	Calm	0	0	.....	.....	3k	.....	.....	.....	.....		Physical Observatory
Astrakhan	30.46	773.8	30.38	771.7	33.6	0.9	68	SSE	18	8	.....	.....	7ks	.....	.....	.....	.....		Capt. Wisganow.
Zvotkowo*	29.72	754.9	30.22	767.6	27.1	— 2.7	87	E	7	3	.....	.....	10	.....	.....	.....	.....		Cand. Fatjanow.
Kasan	29.94	760.6	30.23	767.9	20.7	— 6.3	75	ESE	2	1	.....	.....	9	.....	.....	.....	.....	Light snow	Physical Cabinet.
Ekaterinburg	29.26	743.1	30.31	769.8	14.2	— 9.9	72	Calm	0	0	.....	.....	10	.....	.....	.....	.....		Meteorological Obs.
Nukuss	30.19	766.9	30.44	773.3	24.4	— 4.2	77	N	7	3	.....	.....	5cs	.....	.....	.....	.....		
Tashkend	28.73	729.8	30.54	775.8	33.8	1.0	81	S	.....	.....	.....	.....	9	.....	.....	.....	.....		Teich, A. M.
Barnaul	30.26	768.5	30.83	783.1	— 0.4	—18.0	80	SW	0	0	.....	.....	9	.....	.....	.....	.....		Meteorological Obs.
Yeniseisk	30.52	775 2	30.85	783.6	— 2.2	—19.0	70	SSW	2	1	.....	.....	0	.....	.....	.....	.....		Marks,
Peking, (China)	30.20	767.1	30.34	770.7	33.4	0.8	31	NW	31	14	.....	.....	4k	.....	.....	.....	.....		Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blank	Blank		Meteorological Obs.
Vladivostock	30.23	767.8	30.33	770.3	31.5	— 0.3	100	SSE	7	3	.....	.....	10n	.....	.....	.....	.....		
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.27 ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.83	757.7	29.94	760.4	45.7	7.6	50	WNW	2.2	0.97	.....	.....	6ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.11	764.8	30.17	766.3	47.1	8.4	67	N	2.9	1.31	.....	2	7	N	.....	0.425	10.8	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.6	.....	.....	34.5	1.4	93	N	7.1	3.16	.....	.....	7	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.2	.....	.....	44.4	6.9	62	W	7.4	3.33	.....	0	5	.....	.....	0	0	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.88	759.0	30.04	762.9	57.2	14.0	53	NW	5.3	2.36	.....	2	2	SE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.6	30.20	767.0	46.0	7.8	61	NE	7.4	3.3	.....	.....	8	.....	.....	0.036	0.9	Almost covd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.2	30.00	761 9	72 8	22.7	75	N	13.7	6.1	.....	1cs;ck	7k;n	.....	ENE	Inap.	Inap.	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.77	756 2	29.83	757.6	82.4	28.0	69	ESE	5.6	2.5	.....	.....	.....	.....	.....	0	0	Fair	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.1	30.11	764.7	51.4	10.8	38	NE	6.1	2.7	.....	4	2	W	N	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.86	758.4	29.95	760.7	76.3	24.6	89	SE	0	0	.....	3k	2k	SE	SE	0	0	Cloudy.	Leonardo de Tejada, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.90	759.4	29.95	760.8	16.9	— 8.4	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.86	758.5	29.91	759.8	21.6	— 5.8	95	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.82	757.3	29.87	758.6	28.0	— 5.0	95	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Stockholm	29.54	750.3	29.72	754.8	28.0	— 5.0	95	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.54	750.2	29.60	751.7	30.2	— 1.0	92	NE	.....	.....	8	.....	10	.....	.....	0.126	3.2	Snowing	
Sub-Series.																			
Upsala	29.69	754.1	29.76	756.0	20.1	— 6.6	95	N	17.0	7.6	.....	.....	10	.....	.....	0.004	0.11	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.45	722.7	29.04	760.5	34.5	1.4	72	SE	.....	.....	3	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.23	717.1	29.04	760.5	30.0	— 1.1	75	W	.....	.....	1	.....	9	.....	.....	0.039	1.0	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.9 mm.; Thermometer, —3.8 cent.; Relative Humidity, +5 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.06	763.6	62.4	16.9	44	SW	9	4.0	.....	.....	6	.....	SW	0	0	....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
Valona	.....	.....	29.98	761.4	55.2	12.9	.....	S	.....	.....	3	.....	10	.....	.....	1.14	29.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.00	762.0	30.12	765.1	67.1	19.5	60	NW	.....	.....	1	.....	2c	.....	.....	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.84	757.9	29.91	759.7	27.7	— 2.4	87	Calm	0	0	.....	.....	10n	.....	.....	0	0	Overcast.....	Hon. J. Ferguson.
Brockville, Ontario	30.05	763.3	30.40	772.1	— 5	—20.6	.....	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear.....	W. R. Bigg.
*Chatham, N B	29.78	756.4	29.84	757.9	35	1.7	90	NW	6	2.7	.....	.....	10n	.....	NW	0.31	7.9	Light rain...	G. A. Blair.
Charlottetown, P. E. Island	29.93	760.2	29.97	761.2	42	5.6	92	S	24	10.7	.....	.....	10n	.....	Calm	0.050	1.27	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	30.10	764.5	30.32	770.1	—10.8	—23.8	100	NW	.....	.....	2	0	0	.....	.....	0.07	1.8	Clear.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	29.86	758.4	29.88	758.9	22	— 5.6	75	SW	30	13.4	.....	.....	10s	.....	SW	0.23	5.8	Cloudy	J. McWilliams.
Fredericton, N. B	29.86	758.4	29.92	760.0	29.0	— 1.7	92	NW	7.0	3.1	.....	.....	10n	.....	.....	0.75	19.1	Heavy snow	Prof. Harrison.
*Fort Garry Manitoba	29.51	749.5	30.53	775.4	—34	—36.7	100	S	3	1.3	.....	0	2ks	.....	SE	0	0	Fair.....	James Stewart.
Granton, Ontario	29.32	742.2	30.49	774.4	— 7	—21.7	.....	W	.....	.....	1	2c	0	W	.....	0	0	Fair.....	James Grant.
*Halifax, N. S	29.91	759.7	30.04	763.0	43	6.1	85	S	22	9.8	.....	0	2ks	.....	SW	0.010	0.25	Fair	F. Allison, M. A.
Hamilton, Ontario	30.04	763.0	30.47	773.9	— 0.6	—18.1	69	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	E. Weedon.
*Kingston, Ontario	30.00	762.0	30.39	771.9	— 8	—22.2	84	N	3	1.3	.....	8c	0	Calm	.....	Inap.	Inap.	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.17	766.3	30.21	767.3	41.0	5.0	86	SW	16	7.2	.....	8k	.....	SW	.....	.....	.....	Showery	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	J. R. Nason.
*Montreal, Quebec	30.04	763.0	30.27	768.8	— 4	—20.0	78	W	24	10.7	.....	0	0	.....	.....	0.03	0.8	Clear.....	C. H. McLeod, C. E
*Parry Sound, Ontario	29.67	753.6	30.51	774.9	—27	—32.8	42	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.59	751.6	30.46	773.7	— 8.7	—22.6	75	Calm	.....	.....	.....	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.69	754.1	30.48	774.2	— 1	—18.3	94	W	6	2.7	.....	0	0	.....	.....	0.21	5.3	Clear.	H. Morgan.
Port Hastings, N. S	30.12	765.0	30.18	766.6	40.8	4.9	.....	SW	12	5.4	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.75	755.6	30.50	774.7	— 9	—22.8	100	NW	10	4.5	.....	.....	8ks	.....	W	0.14	3.6	Cloudy.....	M. Payne.
*Quebec, Quebec	29.73	755.1	30.08	764.0	10	—12.2	79	NW	.....	.....	5	.....	10n	.....	NW	0.30	7.6	Cloudy.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.93	760.2	30.48	774.2	—22	—30.0	86	Calm	0	0	.....	0	0	.....	.....	0.21	5.3	Clear	W. H. McIntyre.
St. Andrews, N. B	29.84	757.9	29.89	759.2	32	0.0	93	NE	.....	.....	3	.....	10n	.....	.....	0.50	12.7	Sleeting	Dr. Gove.
St. John, N. B	29.72	754.9	29.89	759.2	38	3.3	100	S	12	5.4	.....	.....	10n	.....	.....	1.18	30.0	Heavy rain..	G. Murdock, C. E.
*Saugeen, Ontario	29.54	750.3	30.36	771.1	— 7	—21.7	88	NE	1	0.4	.....	.....	10s	.....	.....	0.06	1.5	Cloudy.....	K. Stewart.
Stayner, Ontario	29.66	750.8	30.49	774.4	—21	—29.4	63	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	R. J. Cole.
Stratford, Ontario	29.00	736.6	30.42	772.6	— 9.3	—22.9	91	NW	6.0	2.7	.....	0	8	.....	.....	0.20	5.1	Fine	C. J. MacGregor, M. A.
*Sydney, C. B	30.19	766.8	30.23	767.8	45	7.2	85	S	19	8.5	.....	10k	0	SW	.....	0.14	3.6	Fair.....	T. C. Hill.
*Toronto, Ontario	30.00	762.0	30.45	773.4	— 4	—20.0	90	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	Magnetic Observatory.
Windsor, N. S	29.86	758.4	29.90	761.0	45.5	7.5	88	S	40	17.9	.....	7k	0	.....	.....	0	0	Cloudy.....	Prof. John E. Oram
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	43.0	6.1	83	SW	.....	.....	.....	2c	5k	.....	.....	0.01	0.3	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	30.04	763.0	30.30	769.6	15	— 9.4	56	NW	14	6.3	.....	1k	0	W	.....	0.34	8.6	Clear	
Alpena, Michigan	29.75	755.6	30.52	775.2	—15	—26.1	72	Calm	0	0	.....	0	0	.....	.....	0.20	5.1	Clear	
Atlanta, Georgia	29.15	740.4	30.39	771.9	23	— 5.0	60	NW	11	4.9	.....	2cs	0	Calm	.....	0.07	1.8	Clear	
Atlantic City, New Jersey	30.36	771.1	30.37	771.4	22	— 5.6	72	NW	14	6.3	.....	0	0	.....	.....	0.82	20.8	Clear	
Augusta, Georgia	30.16	766.1	30.34	770.6	35	1.7	36	NE	4	1.8	.....	0	1s	.....	N	Inap.	Inap.	Clear	
Baltimore, Maryland	30.39	771.9	30.44	773.2	25	— 3.9	75	NW	8	3.6	.....	2k	Sm'e	NW	Calm	0.04	1.0	Fair	
Barnegat, New Jersey	30.30	769.6	30.32	770.1	23	— 5.0	61	NW	24	10.7	.....	2k	0	Calm	.....	0.54	13.7	Fair	
Bismarck, Dakota	28.14	714.7	30.00	762.0	— 2	—18.9	100	E	12	5.4	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Boerne, Texas	28.82	732.0	30.21	767.3	35	1.7	70	Calm	0	0	.....	5cs;hz'	Haze	Calm	Calm	0	0	Fair	
Boise City, Idaho	27.07	687.6	30.03	762.8	47	8.3	77	SE	5	2.2	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Boston, Massachusetts	30.00	762.0	30.16	766.1	23	— 5.0	86	W	14	6.3	.....	.....	10s	.....	NW	0.50	12.7	Cloudy	
Brackettville, Texas	29.14	740.1	30.22	767.6	38	3.3	54	NE	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	29.19	741.4	30.35	770.9	—13	—25.0	90	SE	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	30.19	766.8	30.26	768.6	54	12.2	55	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Buffalo, New York	29.67	753.6	30.46	773.7	4	—15.6	74	W	16	7.2	.....	2cs	1s	Calm	Calm	0.02	0.5	Fair	
Burkes, Arizona	.....	.....	.....	.....	53	11.7	8	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.95	760.7	30.25	769 1	5	—15.0	75	N	12	5.4	.....	0	0	.....	.....	0.35	8.9	Clear	
Cairo, Illinois	30.17	766.3	30.61	777.5	18	— 7.8	68	NE	5	2.2	.....	5cs	0	W	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	52	11.1	35	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	39	3.9	55	NW	.....	.....	2	0	0	.....	.....	0	0	Clear	
Campo, California	27.46	697.5	30.03	762.8	36	2.2	71	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.30	769.6	30.31	769.9	33	0.6	79	NE	40	17.9	.....	.....	10n	.....	NE	0.06	1.5	Light rain	
Cape Henry, Virginia	30.33	770.4	30.35	770.9	28	— 2.2	77	NW	37	16.5	.....	1k	0	NW	.....	0.24	6.1	Clear	
Cape Lookout, N. Carolina	30.26	768.6	30.27	768.8	37	2.8	90	NE	40	17.9	.....	.....	10n	.....	NE	0.15	3.8	Light rain	
Cape May, New Jersey	30.33	770.4	30.36	771.1	25	— 3.9	75	NW	36	16.1	.....	0	2s	.....	Calm	0.66	16.8	Fair	
Castroville, Texas	29.51	749.5	30.25	768.3	43	6.1	36	SE	6	2.7	.....	.....	10ks	.....	SE	0	0	Cloudy	
Charleston, South Carolina	30.11	764.8	30.16	766.1	45	7.2	76	N	16	7.2	.....	9k	0	W	.....	0	0	Fair	
Cheyenne, Wyoming	23.91	607.3	29.85	758.2	44	6.7	37	W	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.77	756 1	30.37	776.5	— 3	—19.4	100	W	4	1.8	.....	Haze	Haze	.....	.....	0.09	2.3	Hazy	
Cincinnati, Ohio	29.88	758.9	30.62	777.7	12	—11.1	61	NW	7	3.1	.....	1k	0	NW	.....	0.01	0.3	Clear	
Cleveland, Ohio	29.72	754.9	30.54	775.7	6	—14.4	76	SW	11	4.9	.....	2k	5ks	W	W	0.04	1.0	Fair	
Coleman City, Texas	28.50	723.9	30.29	769.4	28	— 2.2	77	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.64	752.8	30.58	776.7	9	—12.8	78	W	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Corpus Christi, Texas	28.35	720.1	30.16	766.1	25	— 3.9	38	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.90	759.4	30.40	772.1	34	1.1	43	N	4	1.8	.....	5ks	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.81	757.2	30.54	775.7	1	—17.2	71	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Deadwood, Dakota	25.16	639.0	.....	.....	35	1.7	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	29.17	740.9	30.44	773.2	32	0.0	92	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.54	750.3	30.39	771.9	31	— 0.6	58	SE	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Denver, Colorado	24.69	627.1	29.91	759.7	40	4.4	56	S	8	3.6	.....	5ck	0	NW	.....	0	0	Fair	
Des Moines, Iowa	29.45	748.0	30.44	773.2	6	—14.4	88	SE	7	3.1	.....	.....	10n	.....	Calm	0.05	1.3	Heavy snow	
Detroit, Michigan	29.74	755.4	30.51	774.9	0	—17.8	70	SW	9	4.0	.....	0	0	.....	.....	0.22	5.6	Clear	
Dodge City, Kansas	27.42	696.5	29.80	756.9	30	— 1.1	89	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.77	756.1	30.59	777.0	—11	—23.9	52	Calm	0	0	.....	5ck	1s	W	Calm	0	0	Fair	
Duluth, Minnesota	29.73	755.1	30.54	775.7	—20	—28.9	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.54	750.3	30.28	769.1	43	6.1	28	SE	.....	.....	1	0	2s	.....	Calm	0	0	Fair	
Eastport, Maine	29.84	757.9	29.90	759.4	33	0.6	100	NW	12	5.4	.....	.....	10n	.....	NW	0.37	9.4	Sleeting	
Edinburg, Texas	.....	.....	.....	.....	53	11.7	93	N	.....	.....	6	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	26.32	668.5	.....	.....	45	7.2	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.69	754.1	30.49	774.4	9	—12.8	78	Calm	0	0	.....	10ck	0	W	.....	0.03	0.8	Cloudy	
Escanaba, Michigan	29.75	755 6	30.53	775.4	—17	—27.2	59	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	28.50	723.9	30.10	764.5	48	8.9	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.85	707.4	.....	.....	6	—14.4	76	NE	.....	.....	2	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Fort Craig, New Mexico	25.60	650.2	29.66	753.4	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.27	641.8	30.23	767.8	37	2.8	63	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.76	755.9	30.34	770.6	31	— 0.6	69	SE	16	7.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Fort Griffin, Texas	28.97	735.8	30.45	773.4	24	— 4.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Keogh, Montana	27.24	691.9	.....	.....	26	— 3.3	88	SE	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Fort McKavett, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.08	738.6	30.27	768.8	26	— 3.3	62	SW	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.12	714.2	.....	.....	— 3	—19.4	83	SE	.....	.....	1	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Fredericksburg, Texas	28.50	723.9	30.12	765.0	47	8.3	28	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.30	769.6	30.34	770.6	46	7.8	54	NE	16	7.2	.....	0	8s	.....	NE	0	0	Cloudy	
Graham, Texas	29.24	742.7	30.38	771.6	24	— 4.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.76	755.9	30.50	774.7	6	—14.4	76	NE	9	4.0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Indianapolis, Indiana	29.71	754.6	30.60	777.2	4	—15.6	61	NW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Indianola, Texas	30.29	769.4	30.32	770.1	47	8.3	62	NE	22	9.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Jacksboro, Texas	29.14	740.1	30.36	771.1	26	— 3.3	75	SE	3	1.3	.....	2cs	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.22	767.6	30.24	768.1	47	8.3	28	NW	8	3.6	.....	5k	0	NW	.....	0	0	Fair	
Keokuk, Iowa	29.80	756.9	30.51	774.9	6	—14.4	76	SE	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Key West, Florida	30.02	762.5	30.05	763.3	69	20.6	80	N	14	6.3	.....	2c;k	1s	S;N	Calm	0	0	Fair	
Kittyhawk North Carolina	30.30	769.6	30.33	770.4	32	0.0	59	NE	44	19.7	.....	5cs	0	NW	.....	0	0	Fair	
Knoxville, Tennessee	29.44	747.8	30.55	776.0	18	— 7.8	76	NE	10	4.5	.....	0	Haze	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.71	754.6	30.60	777.2	—17	—27.2	69	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.16	664.4	30.31	769.9	34	1.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.88	758.9	30.24	768.1	41	5.0	41	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Leavenworth, Kansas	29.35	745.5	30.26	768.6	20	— 6.7	70	SE	16	7.2	.....	.....	10s	.....	W	0	0	Cloudy	
Los Angeles, California	29.68	753.9	30.02	762.5	48.0	8.9	93	N	3	1.3	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Louisville, Kentucky	29.96	761.0	30.59	777.0	15	— 9.4	48	N	6	2.7	.....	2k	2s	NW	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.70	754.4	30.44	773.2	24	— 4.4	48	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Madison, Wisconsin	29.41	747.0	30.57	776.5	—11	—23.9	75	W	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Marquette, Michigan	29.64	752.8	30.47	773.9	—14	—25.6	45	W	12	5.4	.....	0	0	.....	.....	0.06	1.5	Clear	
Mason, Texas	28.62	726.9	30.51	774.9	30	— 1.1	47	Calm	0	0	.....	0	8s	.....	E	0	0	Fair	
Memphis, Tennessee	30.18	766.6	30.53	775.4	23	— 5.0	60	NE	8	3.6	.....	2cs	0	Calm	.....	0	0	Clear	
Milwaukee, Wisconsin	29.72	754.9	30.58	776.7	—12	—24.4	54	NW	8	3.6	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
Mobile, Alabama	30.34	770.6	30.39	771.9	35	1.7	63	NE	12	5.4	.....	0	0	.....	.....	0.12	3.0	Clear	
Montgomery, Alabama	30.17	766.3	30.43	772.9	31	— 0.6	49	N	5	2.2	.....	1c	0	Calm	.....	0.01	0.3	Clear	
Morgantown, West Virginia	29.34	745.2	30.46	773.7	31	— 0.6	48	SW	9	4.0	.....	.....	8ks	.....	SW	0.05	1.3	Cloudy	
Mt. Washington, N. H.	23.35	593.1	29.71	754.6	— 1	—18.3	100	NW	48	21.5	.....	.....	Fog	.....	NW	0.77	19.6	Foggy	
Nashville, Tennessee	29.98	761.5	30.57	776.5	20	— 6.7	70	N	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
New Haven, Connecticut	30.14	765.5	30.27	768.8	23	— 5.0	73	N	10	4.5	.....	5ck	0	SW	.....	0.48	12.2	Fair	
New London, Connecticut	30.17	766.3	30.22	767.6	25	— 3.9	75	NW	20	8.9	.....	3ck	0	W	.....	0.62	15.7	Fair	
New Orleans, Louisiana	30.29	769.4	30.35	770.9	40	4.4	39	N	14	6.3	.....	0	0	.....	.....	0.13	3.3	Clear	
Newport, Rhode Island	30.14	765.5	30.20	767.1	25	— 3.9	87	NW	18	8.0	.....	.....	10s	.....	Calm	0.14	3.6	Cloudy	
New York, New York	30.15	765.8	30.34	770.6	23	— 5.0	60	NW	13	5.8	.....	0	Haze	.....	Calm	0.22	5.6	Clear	
Norfolk, Virginia	30.34	770.6	30.40	772.1	28	— 2.2	54	N	16	7.2	.....	0	0	.....	.....	0.78	19.8	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.99	685.5	29.74	755.4	14	—10.0	73	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Olympia, Washington Ter.	29.63	752.6	29.67	753.6	42.0	5.6	91	N	3	1.3	.....	.....	10n	.....	.....	1.65	41.9	Light rain...	
Omaha, Nebraska	29.00	736.6	30.20	767.1	14	—10.0	82	SE	10	4.5	.....	5k	5s	NW	Calm	0	0	Cloudy	
Oswego, New York	30.05	763.3	30.40	772.1	12	—11.1	80	NW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Pembina, Dakota	29.49	749.0	30.49	774.4	—28	—33.3	100	E	6	2.7	.....	.....	10s	.....	.....	0.13	3.3	Clear.....	
Philadelphia, Pa	30.32	770.1	30.37	771.4	22	— 5.6	72	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear.....	
Phœnix, Arizona	28.83	732.3	30.04	778.2	53	11.7	48	SE	2	0.9	.....	0	0	.....	.....	0	0	Fair.....	
Pike's Peak, Colorado	17.66	448.6	29.88	758.9	12	—11.1	42	NW	40	17.9	.....	5cs	0	NW	.....	0	0	Clear.....	
Pioche, Nevada	24.14	613.1	29.91	759.7	41	5.0	33	NW	2	0.9	.....	0	10s	.....	Calm	0	0	Clear.....	
Pittsburg, Pennsylvania	29.59	751.6	30.49	774.4	14	—10.0	82	NW	10	4.5	.....	10k	0	NW	.....	Inap.	Inap	Cloudy.....	
Port Huron, Michigan	29.73	755.1	30.49	774.4	— 1	—18.3	68	NW	4	1.8	.....	.....	10ks	.....	NW	0.16	4.1	Cloudy.....	
Portland, Maine	29.98	761.5	30.03	762.8	29	— 1.7	89	W	12	5.4	.....	.....	10n	.....	Calm	0.82	20.8	Light snow.	
Portland, Oregon	29.69	754.1	29.79	756.7	55.6	12.8	90	S	18	8.0	.....	.....	10n	.....	Calm	1.06	26.9	Heavy rain.	
Prescott, Arizona	24.82	630.4	30.18	766.6	36	1.7	53	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pilot Point, Texas	29.03	737.3	29.86	758.4	51	10.6	93	N	12	5.4	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky.....	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	62	16.7	77	N	14	6.3	.....	5cs	0	SW	.....	0	0	Fair.....	
Red Bluff, California	29.66	753.4	30.03	762.8	50	10.0	86	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	30.10	764.5	30.33	770.4	52	11.1	29	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	29.71	754.6	30.39	771.9	10	—12.2	79	W	15	6.7	.....	5k	0	W	.....	Inap.	Inap.	Fair.....	
Roseburg, Oregon	29.39	746.5	29.96	761.0	54.0	12.2	80	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	29.94	760.5	30.02	762.5	54	12.2	87	SE	2	0.0	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.94	760.5	30.58	776.7	14	—10.0	64	E	8	3.6	.....	5cs;k	1s	Calm;W	Calm	0	0	Fair.....	
St. Marks, Florida	30.25	768.3	30.26	768.6	41	5.0	25	NE	20	8.9	.....	0	8s	.....	N	0.04	1.0	Fair	
St. Paul, Minnesota	29.51	749.5	30.49	774.4	—14	—25.6	45	Calm	0	0	.....	8cs	0	N	.....	0	0	Fair.....	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	47	8.3	41	NE	4	1.8	.....	0	4s	.....	W	0	0	Fair.....	
San Antonio, Texas	29.61	752.1	30.22	767.6	39	3.9	46	NE	3	1.3	.....	0	5ks	.....	Calm	0	0	Fair.....	
San Diego, California	29.96	761.0	30.04	763.0	49	9.4	100	NW	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy.....	
Sandusky, Ohio	29.79	756.7	30.54	775.7	12	—11.1	61	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Sandy Hook, New Jersey	30.30	769.6	30.34	770.6	23	— 5.0	60	NW	26	11.6	.....	0	0	.....	.....	0.72	18.3	Clear	
San Francisco, California	29.97	761.2	30.03	762.8	53	11.7	86	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	34	1.1	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	30.17	766.3	30.26	768.6	42	5.6	42	N	12	5.4	.....	8k	0	NW	.....	0	0	Fair	
Shreveport, Louisiana	30.21	767.3	30.44	773.2	35	1.7	70	NE	8	3.6	.....	0	2s	.....	Calm	0	0	Fair.....	
Silver City, New Mexico	24.36	618.7	30.69	779.5	36	2.2	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Smithville, North Carolina	30.26	768.6	30.30	769.6	37	2.8	53	N	16	7.2	.....	0	8ks	.....	SW	0.02	0.5	Cloudy.....	
Springfield, Massachusetts	30.14	765.5	30.28	769.1	22	— 5.6	58	NW	15	6.7	.....	0	0	.....	.....	0.71	18.0	Clear	
Stockton, Texas	27.08	687.8	30.08	764.0	36	2.2	45	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.01	762.2	30.06	763.5	20	— 6.7	56	NW	24	10.7	.....	8cs	0	W	.....	0.16	4.1	Fair.....	
Toledo, Ohio	29.77	756.1	30.54	775.7	6	—14.4	76	SW	8	3.6	.....	0	0	.....	.....	0.07	1.8	Clear.....	
Tucson, Arizona	27.55	699.8	30.10	764.5	49	9.4	43	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.36	745.7	29.84	757.9	48.0	8.9	93	SE	4	1.8	.....	.....	10s	.....	SE	0.05	1.3	Cloudy.....	
Unalashka, Aleutian Islands	.....	.....	.....	.....	21	— 6.1	85	NW	.....	.....	2	.....	10s	.....	NW	0	0	Cloudy.....	
Uvalde, Texas	29.40	746.7	30.26	768.6	43	6.1	14	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Vicksburg, Mississippi	30.20	767.1	30.48	774.2	32	0.0	50	NE	5	2.2	.....	5c	0	Calm	.....	0	0	Fair.....	
Virginia City, Montana	24.01	609.8	29.40	749.0	45	7.2	61	W	20	8.9	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Visalia, California	29.66	753.4	30.04	763.0	52.5	11.4	82	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C	30.32	770.1	30.44	773.2	23	— 5.0	47	NW	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear...	
Wickenburg, Arizona	.....	.....	.....	.....	48	8.9	63	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina	30.20	767.1	30.28	769.1	36	2.2	38	N	16	7.2	.....	0	2s	.....	Calm	0	0	Fair.....	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	45	7.2	46	SW	5	2.2	.....	2k	0	SW	.....	0	0	Fair.....	
Wood's Holl, Mass	30.09	764.3	30.13	765.3	27	— 2.8	88	NW	24	10.7	.....	.....	10n	.....	NW	0.23	5.8	Heavy snow	
Yankton, Dakota	28.83	732.3	30.25	768.3	8	—13.3	89	SE	11	4.9	.....	.....	10n	.....	Calm	0.05	1.3	Light snow..	
Yuma, Arizona	29.78	756.4	29.94	760.5	61	16.1	45	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
SUB-SERIES.																			
Fayetteville, Ark	28.71	729.2	30.23	767.8	25	— 3.9	87	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba. W. I	29.97	761.2	30.02	762.5	73	22.8	81	NE	2.4	1.0	.....	0	8n	.....	NE	0.11	2.8	Cloudy.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I	29.86	758.4	29.94	760.5	77	25.0	.....	SE	25	11.2	.....	.....	.....	.....	.....	0.56	14.2	Partly clo'dy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	29.97	761.2	29.97	761.2	81	27.2	74	E	.....	.....	2	2c	5k	E	.....	0	0	Fair.....	C. J. Hering
Santiago de Cuba, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A	30.14	765.5	30.19	766.8	—30.0	—34.4	.....	NW	23	10.3	.....	.....	8s	.....	NW	0	0	Squally	J. Fortescue & W. Wood

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,383 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayettoville, 1,422 ft., or 433.4 m.; Fort Davis, 5,208 (?) ft., or 1,586.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,876 ft., or 1,486.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,898.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.. Santa Fé, 6,861 (?) ft., or 2,088.1 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,335.3 ft., or 1,321.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.856 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.																					
Navy Yard, Pensacola, Fla.	30.35	770.9	36	2.2	36	2.2	70	N	15	6.7			0			0	0			Clear	
Navy Yard, Portsmouth, N.H	30.10	764.5	60	15.6	24	— 4.4	87	W	10	4.5			10							Overcast	
Naval Hospital, Yokohama, Japan	30.41‡	772.4‡			50	10.0	82	Calm			0		0			0	0			Clear	
Adams. Panama	29.87	758.7	77	25.0	75	23.9	100	NW			.2		0							Clear	
Alaska. Pichilinque Bay, Mexico	30.02	762.5	71	21.7	65	18.3	78	Calm			0		0					Smooth		Blue sky	
Alliance, Villafranca, France	29.74‡	755.4‡			51	10.6	52	E			0–1		9		N;E			Light	S	Threatening	
Ashuelot, Hong-Kong, China	29.79‡	756.7‡			65	18.3	94	E			4		10							Misty	
Canonicus, New Orleans, La	30.23	767.8	39	3.9	41	5.0	49	N			5		2		N					Fair	
Colorado, New York, N. Y.	30.26	768.6	24	— 4.4	23	— 5.0	100	NW	12	5.4			0							Hazy	
Constitution, Lisbon, Portugal	30.17‡	766.3‡			51	10.6	79	ENE			3		1		Calm					Clear	
Despatch, Constantinople, Turkey	30.05‡	763.3‡			64	17.8	58	SE			2		2		S					Fair	
Franklin, Norfolk, Va.	30.48	774.2	64	17.8	29	— 1.7	78	N	18	8.0			0			0.9	23.			Clear	
Gettysburg, Genoa, Italy	29.76‡	755.9‡			43	6.1	100	NNE			1		10			Blank	Blank	Smooth		D. clouds	
Hartford, Montevideo, Uruguay	29.94	760.5	68	20.0	69	20.6	70	WNW			4		8			0	0	Smooth		Hazy	
Lackawana, Panama	29.67‡	753.6‡			74	23.3	95	Calm			0		0			0	0			Clear	
Michigan, Erie, Pa. †	30.20	767.1			7	—13.9	77	WNW			2		10		WNW					Cloudy	
Monocacy, Ning Po, China	29.86‡	758.4‡			54	12.2	93	NW			3		10		NW					Rainy	
Monongehela, Yokohama, Japan	30.36‡	771.1‡			46	7.8		Calm			0		0			0	0			Misty	
New Hampshire, Port Royal, S. C.	30.25	768.3	46	7.8	45.5	7.5	43	N	24	10.7			8		W	0.02	0.5			Cloudy	
Onward, Callao, Peru †	29.98	761.5			66	18.9	94	Calm			0		10					Long	W	Foggy	
Palos, Tientsin, China	30.20	767.1	33	0.6	32	0.0	68	N			7		10							Drizzling	
Passaic, Washington, D. C.					24	— 4.4	61	N			3		2		S					Clear	
Pensacola, S. 38° 20′, W. 86° 10′	30.02‡	762.5‡			63	17.2	100	SW	11	4.9			10		SW	0.05	1.3	Long	S	Overcast	
Powhatan, Key West, Fla.	30.09	764.3	72	22.2	72	22.2	76	NE			3		2		W			Smooth		Clear	
Quinnebaug, Villafranca, France	29.75‡	755.6‡			60	10.0	64	SSE			1		8		S			Smooth		Cloudy	
Ranger, Kobe, Japan	30.28‡	769.1‡			59	15.0	76	ESE			2		2		Calm			Smooth		D. clouds	
Richmond, Naples, Italy	29.90‡	759.4‡			54	12.2	49	WSW			3		8					Smooth		Cloudy	
Rio Bravo, Brownsville, Texas	30.19	766.8	62	16.7	54	12.2	67	N			3		10		N					Cloudy	
Santee, Annapolis, Md.	30.38‡	771.6‡			26	— 3.3		NW			5		2		SW	0.02	0.5			Fair	
St. Louis, League Island, Pa	30.23	767.8	57	13.9	21	— 6.1		NW	25	11.2			2		N	0.25	6.3			Fair	
Supply, N. 22° 04′, W. 59° 05′	30.13‡	765.3‡			78	25.6	91	E			5		2		E			Smooth		Clear	
Trenton Villafranca, France	29.72‡	754.9‡			55	12.8	56	SE			1–2		5		S;E	0	0	None		Fair	
Tuscarora, Acapulco, Mexico	29.97‡	761.2‡			75	23.9	81	Calm			0		0			0	0	Smooth		Clear	
Wabash, Boston, Mass.	30.20‡	767.1‡			25	— 3.9	87	NW	7	3.1			10			0.6	15.			Snowing	
Wyoming, Smyrna, Turkey	30.12‡	765.0‡			64	17.8	83	Var.			0–1		0					Smooth		Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of David S. Babcock, President; Williams, Blanchard & Co., Agents.																			
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada, N. 17° 00′, W. 101° 00′..†*		30.11‡	764.8‡	80	26.7	82	ENE			3		0		SW	0			Clear.	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.
WHITE STAR LINE MARINE SERIES. Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. J. W. Jenning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. B. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Capt. L. Meyer, Hong-Kong, China..*..		29.66‡	753.9‡	67	19.4	89	Var.			4		8		ESE		Mod'ate	SE	Raining	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 30′, W. 165° 14′...†..		29.97‡	761.2‡	51	10.6	93	W			6		8		W	Blank	Very high.	W	Overcast	Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, Santa Cruz, Teneriffe Id		30.20‡	767.1‡	63.0	17.2	67	NE			5		5		NE		Mod'ate	NNW	Fine	Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 9; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, Delaware River		30 42‡	772.6‡	35	1.7		NW			6		6		NW	Light			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool†		29.96‡	761.0‡	46	7.8		NW			2		10		NW	Blank			Cloudy	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			

Note.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.

Note.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

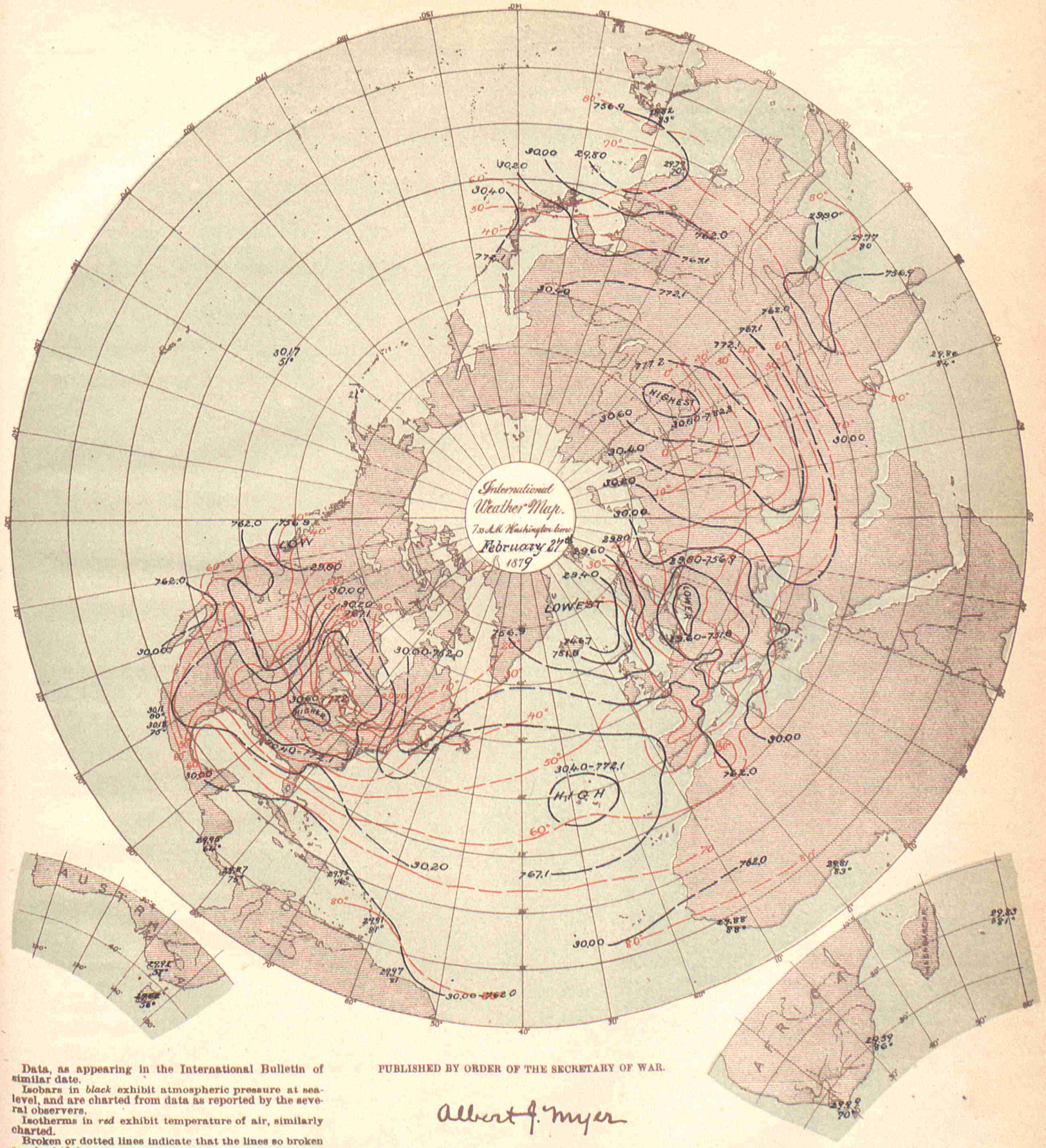
Collated at the Office of the Chief Signal Officer of the Army, Washington, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON FEBRUARY 28, 1879.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Maritz, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador, Marocco	.....	.....	30.11	764.8	54.9	12.7	.....	NE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	
Nemours	.....	.....	30.06	763.6	55.8	13.2	79	WNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	30.00	762.0	52.5	11.4	77	W	.....	.....	4	.....	0	.....	.....	0.150	3.8	Clear	Tourilliere.
La Calle	.....	.....	29.98	761.6	57.9	14.4	81	N	.....	.....	1	.....	8	.....	.....	0.055	1.4	Very cloudy	Foufrede.
Tunis	.....	.....	29.93	760.1	56.8	13.8	51	E	.....	.....	3	.....	10	.....	.....	0	0	Covered	Jacques.
Sfax	.....	.....	30.00	762.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gau.
Saida	.....	.....	29.96	761.0	41.0	5.0	87	N	.....	.....	1	.....	10	.....	.....	0	0	Covered	Herbin.
Tebessa	.....	.....	30.02	762.4	55.8	13.2	80	W	.....	.....	2	.....	5	.....	.....	0.024	0.6	Cloudy	Watrin.
Geriville	.....	.....	29.90	759.5	42.3	5.7	91	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Bruguiaux.
Laghouat	.....	.....	29.95	760.8	52.5	11.4	39	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.97	761.1	62.8	17.1	40	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the amount of cloudiness is given by the scale 0–4; distinction between upper and lower clouds is not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.25	742.9	29.60	751.0	46.6	8.1	69	NE	.....	.....	3	.....	9	.....	.....	0.028	0.7	Raining	Prof. Ivan Stosir.
Cracow, I. R. Observatory	29.00	736.5	29.78	756.5	36.7	2.6	88	W	.....	.....	2	.....	10	.....	.....	0.016	0.4	.....	Dr. Wierzbiski
Eperies	28.89	733.7	29.78	756.3	43.5	6.4	68	S	.....	.....	2	.....	cs	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.56	725.4	29.85	758.2	35.8	2.1	83	S	.....	.....	2	.....	10	.....	.....	0.114	2.9	.....	Andreas Rospini.
Hermannstadt	28.42	721.8	29.85	758.2	50.7	10.4	56	SE	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. A. Gottschling.
Kremsmünster	28.44	722.3	29.82	757.5	35.1	1.7	56	WNW	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. C. Wagner.
Lemberg	28.78	730.9	29.77	756.2	44.6	7.0	60	NE	.....	.....	1	.....	1	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	27.69	754.0	29.80	756.9	44.2	6.8	87	SW	.....	.....	1	.....	10	.....	.....	0.102	2.6	.....	I.R.Hydrographic Office.
Szathmar	29.42	747.3	29.89	759.3	45.7	7.6	72	SW	.....	.....	3	.....	6	.....	.....	0.248	6.3	.....	Julius Csics, S. J.
Szegedin	26.54	760.3	29.82	757.5	50.4	10.2	67	S	.....	.....	1	.....	7	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.71	754.6	29.81	757.2	43.7	6.5	86	SE	.....	.....	1	.....	10	.....	.....	0.642	16.3	Raining	P. Busin.
Vienna	29.11	739.4	29.85	758.2	36.1	2.3	66	S	.....	.....	1	.....	9	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals occasionally give the weather by the Vienna symbols or in general terms, but it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. M. Passau.
Brussels	29.58	751.4	29.79	756.7	37.0	2.8	79	S	.....	.....	2	.....	10	.....	.....	0.014	0.35	.....	Royal Observatory
Furnes	29.73	755.1	29.75	755.7	36.5	2.5	97	SSW	.....	.....	3	.....	10	.....	.....	0.051	1.3	Dense fog	M. E. de Cae.
Maeseyck	29.69	754.1	29.82	757.3	36.1	2.3	84	SSW	.....	.....	2	.....	7	.....	.....	0	0	.....	M. Pierrot
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals occasionally give the weather by the Vienna symbols. Except for Brussels, the distinction between upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m.; Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council, London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Aberdeen	29.68	751.3	29.68	753.9	43.2	6.2	.....	SW	9	4.0	.....	.....	1	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.70	754.4	29.72	754.9	45	7.2	.....	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	William McNeil.
Armagh, Observatory	.....	.....	29.80	756.9	43.0	6.1	.....	W	7	3.1	.....	.....	7	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.74	755.4	39.4	4.1	.....	WNW	13	5.8	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Bolton, (Sharples)	.....	.....	29.68	753.9	41.7	5.4	.....	N	12	5.4	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Bradford, Yorkshire	29.31	744.5	29.71	754.6	42.5	5.8	.....	N	.....	.....	3	.....	10	.....	.....	0.02	0.5	Raining.....	J. McLandsborough.
Bridgetown, (Barbados)	29.90	759.4	29.93	760.2	80.5	26.9	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. Surgener, A. H.
Cambridge, Observatory	.....	.....	29.70	754.4	46.0	7.8	.....	SW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	H. Todd. [C
Cardington	.....	.....	29.68	753.9	48.0	8.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	John McLaren.
Chatham, School M. E.	29.60	751.8	29.73	755.1	45.3	7.4	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Foggy.....	Corpl. Daly, R. E.
Dartmoor	28.22	716.8	29.71	754.6	39.0	3.9	.....	NW	.....	.....	4	.....	9	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	29.74	755.4	29.78	756.4	45	7.2	.....	NNW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.69	754.1	29.72	754.9	42	6.1	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy.....	J. Costello.
Falmouth, Observatory	29.53	750.0	29.76	755.9	42.7	5.9	.....	NNW	.....	.....	5	.....	10	.....	.....	.....	.....	Rain and fog	The Staff.
Fort Napier, (Natal)	27.55	699.8	29.86	758.4	67.3	19.6	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.63	752.6	29.86	758.4	87	30.6	.....	E	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.80	756.9	44	6.7	.....	WNW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.98	761.5	30.03	762.8	55.5	13.2	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. Wm. Allen, A.H.C.
Glasgow, Observatory	29.51	749.5	29.71	754.6	42.3	5.7	.....	WSW	.....	.....	3	.....	.....	.....	.....	.....	.....	Drizzling.....	D. G. Maclean.
Great Yarmouth	29.69	754.1	29.70	754.4	46	7.8	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	Fogg.....	G. T. Watson.
Greenwich, Royal Obs'y	29.55	750.6	29.73	755.1	44.8	7.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.52	749.8	29.74	755.4	48	8.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	Dr. S. E. Hoskins, F.R.S.
Helston	29.74	755.4	29.86	758.4	44	6.7	.....	NW	.....	.....	2	.....	8k	.....	.....	0	0	Gloomy.....	M. P. Moyle.
Holyhead	29.73	755.1	29.78	756.4	43	6.1	.....	WNW	.....	.....	3	.....	6	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.47	748.5	29.77	756.1	46.8	8.2	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Fisher.
Kew, Observatory	29.70	754.4	29.74	755.4	43.1	6.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	The Meteorological Of.
Leicester, Museum	29.46	748.3	29.72	754.9	41.2	5.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.(?).S.
Malta, (Mediterranean)	29.85	758.2	29.93	760.2	62	16.7	.....	NE	.....	.....	2	.....	4k	.....	.....	.....	.....	D. clouds....	Sergt. H. J. Beckett, A. H. C.
Nairn	29.56	750.6	29.64	752.8	45	7.2	.....	WSW	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	72.2	22.3	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.57	751.1	29.70	754.4	45.3	7.4	.....	SW	.....	.....	1	.....	10	.....	.....	0.136	3.45	Raining.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.18	741.2	29.70	754.4	43.0	6.1	.....	WNW	.....	.....	1-2	.....	10	.....	.....	Blank	Blank	Misty.....	Rev. Stephen J. Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.71	754.6	45	7.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Misty.....	H. E. Bellamy.
Plymouth	29.64	752.8	29.71	754.6	45.6	7.6	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.79	756.7	29.85	758.2	45	7.2	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	W. Kennedy.
Saint Ann's Head	29.61	752.1	29.77	756.1	41	5.0	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.56	750.8	42.2	5.7	.....	WSW	27	12.1	.....	.....	0	.....	.....	.....	.....	Blue sky....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	30.00	762.0	59.0	15.0	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	W. H. Lyne.
Sheffield	29.42	747.2	29.71	754 6	42.2	5.7	.....	NNW	.....	.....	1	.....	10	.....	.....	0.13	3.3	Drizzling.....	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	46.0	7.8	82	Calm	.....	.....	0	.....	7	.....	.....	0	0	D. clouds....	Francis Redford, A. M.
Stonyhurst, Observatory	29.32	744.7	29.72	754.9	42.8	6.0	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	Rev. S. J. Perry.
Strathfield Turgiss	29.51	749.5	29.73	755.1	44.3	6.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	C.H.Griffith, F..S.S.
Thurso	29.53	750.0	29.59	751.6	46	7.8	.....	WSW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	29.76	755.9	50	10.0	.....	NW	.....	.....	7	.....	9	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	29.88	758.9	29.91	759.7	46.2	7.9	.....	NW	15	6.7	.....	.....	4	.....	.....	Blank	Blank	D. clouds....	The Meteorological Of.
Sub-Series.																			
Cape of Good Hope Obs'y	29.83	757.7	29.87	758.7	86.3	30.2	23	SSE	7	3.1	.....	0	0	.....	.....	0	0	Foggy	The Staff, for D. Gill.
Hobart Town, (Tasmania)	.....	.....	29.60	751.8	62.0	16.7	88	NW	.....	.....	2	.....	1kn	.....	.....	0.1	3.	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	29.73	755.1	44.3	6.8	.....	W	.....	.....	2	.....	9k	.....	.....	0	0	Cloudy.....	Andrew Gibb.
Mauritius, Observatory	29.77	756.1	29.96	761.0	79.7	26.5	54	SSE	24.0	10.7	.....	0	3	.....	WSW	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.85	758.2	29.95	760.7	61.6	16.4	73	SW	11	4.9	.....	.....	9	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	29.72	754.9	46	7.8	.....	W	.....	.....	4	.....	10	.....	.....	0	0	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	29.50	749.3	41	5.0	.....	SW	.....	.....	6	0	3	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to sea-level. Amount of cloudiness for Holyhead by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen, (following day,) at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m., local time; Sheffield, (following day,) 8 a. m. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m

British Marine Series, Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer
Brig Alliance, N. 22° 43′, W. 34° 31′	.....	.....	30.14‡	765.5‡	72	22.2	.....	ENE	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. W. Scott.
S. S. Amanda, N. 10° 35′, E. 67° 30′	.....	.....	29.88‡	758.9‡	82.8	28.2	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Capt. B. Boyes.
Barque Belle Isle, N. 22° 00′, W. 85° 35′	.....	.....	30.07	763.8	74	23.3	.....	N	.....	.....	6	.....	7	.....	.....	5	NNE	D. clouds.....	Capt. A. J. Brown.
Ship British Commodore, N. 45° 15′, W. 24° 40′	.....	.....	30.42	772.6	51	10.6	.....	N	.....	.....	6	.....	4	.....	.....	6	N	Squally.....	Capt. J. W. Thorne.
——City of Agia, S. 8° 40′, W. 25° 32′	.....	.....	29.94‡	760.5‡	79.5	26.4	.....	E	.....	.....	4	.....	8	.....	.....	.....	.....	Showery	Capt. Thos. Young.
Barque Commewyne, N. 8° 26′, W. 55° 10′	.....	.....	29.92‡	760.0‡	79	26.1	.....	ENE	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	Capt. A. Buchan.
——Denbighshire, S. 50° 02′, W. 17° 05′	.....	.....	30.09‡	764.3‡	48	89	.....	NNW	.....	.....	6	.....	5	.....	.....	.....	.....	Squally.....	Capt. H. Murdoch.
Barque Mertole, N. 37° 36′ W. 13° 40′	.....	.....	30.13‡	765.3‡	56.8	13.8	.....	NNW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Capt. E. W. Turner. Capt. Barlow.
S. S. Nizam ——Strathleven, N. 9° 31′, E. 85° 44′	.....	.....	29.78‡	756.4‡	80	26.7	.....	S	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	Capt. C. W. Pearson.
S. S. Wyberton, N. 6° 00′, E. 81° 30′	.....	.....	29.85‡	758.2‡	82.5	28.1	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Capt. McMontry.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by the Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction but not as to amount; the height of sea-disturbance by the scale 0 to 9; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. ‡Correction for temperature and instrumental error applied at this office; elevation not known.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	25.26	667.0	29.98	761.5	63.5	17.5	80	SE	.....	.....	1	5c	.....	.....	.....	0	0	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; it is reduced to sea-level by the use of a constant 3.72 inches. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. The weather is published as given. The elevation of San José is 1,145 meters, or 3,756.4 feet.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.65	753.0	29.69	754.2	26.2	— 3.2	91	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Fanöe	29.70	754.3	29.72	754.8	30.4	— 0.9	92	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Snowing	
Godthaab, (Greenland)	29.17	741.0	29.22	742.1	16.9	— 8.4	97	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Snow & sleet	
Stykkisholm, (Iceland)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.45	748.1	29.49	749.0	29.1	— 1.6	82	NW	.....	.....	5	.....	7	.....	.....	.....	.....	Snow & sleet	
Vestervig	29.49	749.0	29.66	753.3	28.8	— 1.8	92	S	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols, but it is not certain that they always refer to the moment of observation; no distinction between the amount of upper and lower clouds; they omit the cloud direction and rain-fall.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.5	29.86	758.5	43.2	6.2	91	SSW	.....	.....	1	.....	10	.....	.....	0.087	2.2	Covered	Collignon, Director.
Amiens, Normal School	29.66	753.3	29.77	756.2	41.4	5.2	90	WSW	.....	.....	1	.....	10	.....	.....	0	0	Covered..	Bonvallet, Director.
Avignon, Normal School	29.77	756.1	29.85	758.1	45.3	7.4	48	NNW	.....	.....	3	.....	0	.....	.....	0	0	Clear	M. Giraud, Director.
Bar-sur-Seine	29.30	744.1	29.88	758.9	41.2	5.1	66	S	.....	.....	1	.....	8kn	.....	SW	0.087	2.2	Very cloudy	O. Saillard, Director.
Beauvais, Normal School	29.62	749.9	29.82	757.3	43.0	6.1	75	S	.....	.....	1	.....	10	.....	SSW	0	0	Covered	Frere Eugene Marie, Dir.
Besançon, Normal School	29.00	736.6	29.91	759.8	39.6	4.2	80	S	.....	.....	2	.....	2	.....	.....	0.134	3.4	Slightlycl'dy	A. Carré, Director.
Bourg-en-Bresse, N. School	29.07	738.3	29.97	761.2	37.6	3.1	93	W	.....	.....	1	.....	kn	N	N	0	0	.....	M. Marlot, Director.
Bourges, Normal School	29.28	743.8	29.85	758.2	38.1	3.4	87	SSE	.....	.....	1	.....	10	SSE	SSE	0.04	1.	Covered	A. Waquet, Director.
Brest, Naval Observatory	29.47	748.4	29.71	754.6	53.2	11.8	86	SW	.....	.....	2	.....	10	.....	SW	0.266	6.75	Foggy	M.de Rermaree, Director
Carcassonne, Normal School	29.47	748.4	29.89	759.2	43.5	6.4	53	W	.....	.....	1	.....	5	NW	NW	0	0	Cloudy	September, Director.
Caen, Normal School	29.68	753.8	29.75	755.7	47.1	8.4	89	SW	.....	.....	1	.....	10	.....	.....	0.04	1.	Covered	M. Lair, Director.
Chartres, Normal School	29.16	740.6	29.74	755.4	36.0	2.2	80	SSE	.....	.....	1	.....	10	.....	.....	0.20	5.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.56	750.7	29.88	759.0	37.0	2.8	89	.....	.....	.....	.....	.....	10	.....	.....	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.46	722.9	29.85	758.3	38.5	3.6	60	S	.....	.....	1	.....	10	.....	SSW	0.035	0.9	.....	Alluard, Director.
Commercy, Normal School	28.97	735.9	29.88	759.0	36.0	2.2	89	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. Coulet, Director.
Commune de Gréasque*	28.64	727.4	29.78	756.4	41.4	5.2	49	SW	.....	.....	2	.....	5	.....	SW	0	0	½ covered	M. Kina, Director.
Grenoble, Normal School	29.13	739.9	29.93	760.1	36.3	2.4	72	SSW	.....	.....	1	.....	2ck	.....	N	0	0	Slightly cl'dy	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.61	752.2	29.84	757.8	46.8	8.2	91	NW	.....	.....	1	.....	10	.....	.....	0.173	4.4	Covered	Mouillot, Director.
Le Mans, Normal School	29.50	749.3	29.82	757.3	42.8	6	100	S	.....	.....	2	.....	10	.....	.....	0.16	4.	Covered	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.37	735.8	29.91	759.8	36.1	2.3	79	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	29.69	754.0	29.77	756.1	54.0	12.2	95	WSW	.....	.....	2	.....	.....	.....	W	0.244	6.2	.....	Lt T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Galxin, Director
Mirecourt, Normal School	28.85	732.8	29.94	760.5	34.5	1.4	81	SW	.....	.....	1	.....	n	.....	NE	0	0	.....	M. Barbier, Director.
Nismes, Normal School	29.65	753.0	29.85	758.3	46.0	7.8	64	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	28.80	731.5	29.90	759.4	41.4	5.2	46	N	.....	.....	1	c	.....	N	N	0	0	.....	M. Cantier, Director.
Puy de Dome (Summit) Obs	24.85	631.1	.....	.....	23.2	— 4.9	100	SW	.....	.....	2	.....	.....	.....	.....	0.346	8.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.80	757.0	29.84	757.8	47.7	8.7	98	SSE	.....	.....	1	.....	10	SSE	SSE	0.16	4.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.71	754.5	29.79	756.7	41.9	5.5	90	NW	.....	.....	2	.....	10	.....	.....	0	0	Covered	Frere Lucard, Director.
Saint Malo (Port) Obs'y	29.72	754.8	29.75	755.6	52.5	11.4	85	S	.....	.....	1	.....	8	S	SW	0	0	Misty	Lt. Hercouet, Director.
Saint Maur, (near Paris)	29.66	753.0	29.81	757.2	38.7	3.7	88	S	.....	.....	1	.....	.....	.....	SSW	0	0	.....	E. Renou, Director.
Tarbes, Normal School	28.81	731.8	29.91	759.7	42.8	6	70	SW	.....	.....	4	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Versailles Observatory	29.30	744.3	29.80	756.8	38.7	3.7	.....	SW	.....	.....	1	.....	10	.....	.....	0.030	0.75	Light fog	Dr. A. Bérigny, Director
Villefranche-sur-Saone, N.S.	29.18	741.1	29.91	759.7	40.8	4.9	93	SE	.....	.....	1	.....	1	.....	NW	0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.5	29.93	760.2	75.6	24.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.	.....	L'Abbé Marchesi.
Lyons Obs'y, (Park Station)	.....	.....	29.91	759.6	36.3	2.4	82	ESE	.....	.....	1	.....	4	.....	.....	Inap.	Inap.	.....	Mr. Jays.
Marseilles, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff.
Mont-Louis	24.61	625.0	29.92	760.0	26.2	— 3.2	69	SW	.....	.....	3	.....	7	.....	.....	0.563	14.3	.....	M. Cave.
Nice	.....	.....	29.82	757.3	49.6	9.8	62	NW	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	Dr. A. Niepce, Jr.
Paris, Montsouris Obs'y	29.58	750.0	.....	.....	38.5	3.6	91	S	.....	.....	2	.....	10	.....	.....	0	0	.....	Marié Davy, Director.
Perpignan	29.79	756.6	29.89	759.3	42.4	5.8	62	S	35.1	1.7	.....	.....	7	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.23	564.6	.....	.....	25.7	— 3.5	.....	Calm	.....	.....	1	.....	10	.....	.....	0.894	22.7	Snowy	Gen'l de Nansouty.
Toulouse, Observatory	29.19	741.4	29.91	759.7	41.0	5.0	84	S	.....	.....	1	.....	10	.....	.....	0.346	8.8	.....	M. Mercadier Juller.
Tours	29.62	752.4	29.82	757.4	39.2	4.0	93	SW	.....	.....	.....	.....	10	.....	.....	0.071	1.8	Rainy	Cousin-Marquet.
Zi-Ka-Wei, (near Shanghai)	30.24	768.2	30.27	768.9	36.3	2.4	74	NW	44.8	7.1	.....	.....	9k	.....	NW	0.008	0.2	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount in general terms, except Clermont-Ferrand and Greasque on the scale 0 to 4 and Brest on the scale 0 to 10; Mirecourt apparently gives cloud direction towards instead of from; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Saint Maur, the observations have been taken at 1:00 instead of 0:53 p. m. local time. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet; Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m., or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit, 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–1	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.99	736.4	29.83	757.7	34.2	1.2	80	W			3		10	W		0.197	5.0	Snowing	Prof. Dr. Hoh.
Berlin	29.57	751.0	29.75	755.6	30.4	— 0.9	85	NW			1		10			0.484	12.3		Prof. Arndt.
Breslau	29.22	742.2	29.74	755.5	30.0	— 1.1	84	W			2		4			0.107	2.73	Snowing	Royal University Obs'y
Carlsruhe	29.42	747.2	29.86	758.4	34.5	1.4	70	SW			4		10	SW		0	0		Albert Senz.
Cassel	29.20	741.7	29.80	757.0	31.6	— 0.2	76	N			5		10	SW		0.021	0.52	Snowing	Dr. H. Möhl.
Crefeld	29.64	752.8	29.80	756.9	36.1	2.3	69	SE			1		8			0.04	1.		Director Lose.
Emden					33.1	0.6	86	SSW			2		8			0	0		Prof. Prestel.
Frankfort on the Main	29.49	749.1	29.87	758.6	35.2	1.8		SW			2		9			0.209	5.3		Physical Society.
Friedrichshafen	28.41	721.6	29.79	756.6	34.9	1.6	51	NW			3		2	NW		0	0		M. Wilhelm.
Hamburg	29.72	754.8	29.79	756.7	25 2	— 3.5	89	NW			2		10			0.004	0.1	Light snow	Captain F. Hegemann.
Kiel	29.77	756.1	29.78	756 5	27.5	— 2.5	91	WNW			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.58	751.4	29.67	753.5	36.1	2.3	76	SE			3		4			0	0		Prof. E. Luther.
Köslin			29.60	751.7	32.0	0.0		NW			2		4			0.677	17.2		H. Müller.
Leipsic, Observatory	29.39	746.4	29.83	757.6	30.2	— 1.0	82	WSW			1		10					Snowing	Prof. Bruhns, Privy Counselor.
Memel, Naval School	29.64	752.8	29.69	754.0	33.4	0.8	85	S			1		1					Hazy	Skalweit.
Neufahrwasser	29.63	752.6	29.65	753.0	34.5	1.4	83	SSE			2		10			0.016	0.4		A. Lothes.
Posen	29.42	747.2	29.71	754.7	33.6	0.9	95	W			6		10			0.102	2.6	Snowing	Dr. Magener.
Strassburg (in Alsace)	29.34	745.1	29.90	759.5	38.1	3.4	74	S			3		10			0.079	2.00		Imp. University Observatory.
Stuttgart	28.89	733.8	29.81	757.1	35.2	1.8	66	NW			1		10	SW		0	0		Prof. Schoder.
Treves, (Trier)																			Prof. Flesch.
Weissenburg, (Bavaria)	28.30	718.8	29.87	758.8	30.0	— 1.1	90	W	9	4			10			0.035	0.9		Dr. Van Bebber.
Wustrow, Naval School	29.69	754.0	29.71	754.6	26.1	— 3.3	100	NE			3		10s			0	0		E. Schütz, Dir.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 427 m., or 1,400.9 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4, and at Crefeld by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to, the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.63	752.6	30.02	762.5	61.3	16.3		SW			2.5							Smoky	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.38	746.4	29.86	758.4	83.2	26.4	21	W	5.3	2.4			0			0	0	Blue sky	
Bombay	29.83	757.6	29.86	758.6	80.5	26.9	72	NW	19	8.5			1		NW	0	0	D. clouds	
Lahore	29.09	738.9	29.84	758.0	75.9	24.4	35	Calm	1.3	0.6			4			0	0	Blue sky	
Belgaum	27.31	693.6	29.79	756.7	87.4	30.8	35	Calm					1			0	0	D. clouds	
Roorkee	28.86	733.0	29.76	755.9	75.8	24.3	27	NW	5	2.2			1			0	0	D. clouds	
Agra	29.25	742.9	29.81	757.2	82.7	28.2	27	NW								0	0		
Nagpur	28.77	730.7	29.80	756.9	85.6	29.8	36	Calm	2.3	1.0			2			0	0	D. clouds	
Lucknow	29.39	746.4	29.76	755.8	80.5	26.9	22	NW	4.8	2.2						0	0	Blue sky	
Allahabad	29.46	748.2	29.77	756.1	82.2	27.9	36	NW	6.1	2.7			0			0	0	Blue sky	
Patna	29.52	749.7	29.70	754.3	79.7	26.5	49	W	3.2	1.4			0			0	0	Blue sky	
Hazaribagh	27.73	704.3	29.74	755.5	77.6	25.3	24	W	11.3	5.0			0			0	0	Blue sky	
Cuttack	29.68	753.8	29.76	755.9	88.1	31.2	40	S	1.3	0.6			4			0	0	D. clouds	
Calcutta (Alipore)	29.70	754.4	29.72	754.9	82.4	28.0	35	NNW	3.0	1.3			0			0	0	Blue sky	
Goalpara	29.27	743.5	29.66	753.4	77.5	25.4	31	Calm	1.7	0.8			8	W		0	0	D. clouds	
Chittagong	29.67	753.7	29.77	756.1	78.2	25.7	82	SSE	6.6	3.0			0			0	0	Misty	
Sibsagar	29.40	746.8	29.75	755.6	64.9	18.3	78	ENE	0.8	0.4			10	W	W	0	0	Overcast	
Jubbulpore	28.43	722.1	29.79	756.6	83.4	28.6	31	NNW	3.2	1.4			0			0	0	Blue sky	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch, or 0.28 mm. higher than the Kew standard. All conversions are published as given in the originals, where the data are recorded to an additional decimal; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Nagpur is 1,026 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.5 m. The velocity given is the average rate of wind since last observation.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.39	746.5	29.80	757.0	44.1	6.7	75	E	2.5	1.1	.....	.....	5	.....	.....	0.276	7.0	.....	Prof. Giovanni Clodig.
Padua	29.71	754.6	29.82	757.4	41.9	5.5	80	NE	0.7	0.3	.....	.....	10	.....	.....	0.043	1 1	.....	Prof. Dott. Lorenzoni
Milan	29.30	744.2	29.83	757.6	42.6	6.0	60	WSW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.92	734.5	29.84	757.9	39.6	4.2	74	SE	1.3	0.6	.....	.....	5	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.87	707.8	29.81	757.1	39.4	4.1	84	N	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.62	752.3	29.81	757.2	44.6	7.0	59	NE	3.8	1.7	.....	.....	10	SW	.....	0.091	2.3	.....	Prof. G. M. Garibaldi.
Florence	29.56	750.9	29.82	757.5	48.2	9.0	62	NW	.....	.....	2	.....	10	SW	.....	0.118	3.0	.....	Cav. F Meucci
Leghorn	29.70	754.4	29.79	756.6	53.1	11.7	61	S	4.9	2.2	.....	.....	10	S	.....	0.520	13.2	.....	Prof. P. Monte.
Pesaro	29.76	756.0	29.82	757.3	46.8	8.2	75	S	6.3	2.8	.....	.....	10	SW	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.71	754.5	29.88	759.0	47.3	8.5	77	W	13.0	6.7	.....	.....	9	.....	.....	0.370	9.4	.....	Prof. P. S. Ferrari.
Lecce	29.66	753.4	29.91	759.8	59.0	15.0	64	SSW	7.4	3.3	.....	.....	8	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.67	753.5	29.86	758.4	50.5	10.3	60	Calm	0	0	.....	.....	6	W	.....	0.004	0.1	.....	Prof. A. Pacinotti.
Cosenza	29.02	737.1	29.91	759.6	54.7	12.6	74	SW	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. D. Conti.
Palermo	29.67	753.6	29.93	760.1	54.7	12.6	47	NE	2.5	1.1	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.2	29.93	760.1	55.8	13.2	80	NNW	9.8	4.4	.....	.....	4	E	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.35	745.5	29.91	759.6	50.0	10.0	76	NNW	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. T. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds, and only the direction of the upper; they omit the weather. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479? ft.

JAPANESE SERIES.

Furnished by the coöperation of I. Arai, Director of the Imperial Meteorological Observatory at Tokei.

Hiroshima, I. M. Obs'y	29.76	755.9	29.78	756.4	53.9	12.2	93	N	5.2	2.3	.....	.....	10ks	.....	.....	1.110	28.19	Raining	K. Sasaki.
Nagasaki, I. M. Obs'y	29.98	758.9	30.09	764.3	56.7	13.7	91	SW	7.9	3.5	.....	.....	10n	.....	.....	0.620	15.75	Raining	S. Takehayashi.
Tokei (Yeddo) Observatory	30.12	765.0	30.19	766.8	53.7	12.1	76	SSE	6.3	2.8	.....	.....	10s	.....	S	0.045	1.14	Cloudy	The Staff.

Note.—The data are published as given. The rain-fall is measured at 9:30 a. m., local time. For Nagasaki and Hiroshima no distinction is made between the amount of upper and lower clouds. The conversions are published as given in the originals.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	.....	.....	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	P. Ceballos.
Guadalajara	25.08	637.0	30.19	766.8	44.2	6.8	51	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Prof. L. Perez.
Leon	24.46	621.5	30.14	765.6	51.1	10.6	68	SW	.....	.....	2	0	0	.....	.....	0	0	Blue sky	Prof. M. Leal
Mexico, Central Obs'y	23.09	586.4	30.35	771 0	39.2	4.0	61	Calm	0	0	.....	0	.....	.....	.....	0	0	Clear	The Staff.
Pabellon, (Aguascalientes)	.....	.....	.....	.....	44.4	6.9	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Tlacotalpam	30.13	765.2	30.14	765.5	64.6	18.1	88	NW	.....	.....	1	1	1	SE	NW	0	0	Bright	M. M. Cházaro.
San Luis Potosi	24.26	616.2	30.32	770.1	43.0	6.1	22	ESE	.....	.....	1	.....	10	.....	ESE	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	30.15	765.8	30.18	766.6	69.8	21.0	76	NW	8.3	3.7	.....	2ck	4ks	.....	.....	0	0	½ clouded	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. G. de la Cadena.
Puebla, (Catholic Institute)	23.41	594.5	30.16	766.0	36.5	2.5	13	NE	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. Spina.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.7	30.02	762.6	70.6	21.4	65	NE	.....	.....	2	0	0	.....	.....	0	0	Clear	R. Banda, C. E.
San Juan E. Michapam	30.03	762.6	30.16	766.0	66.2	19	.....	Calm	.....	.....	0	6n	4n	.....	.....	0.138	3.5	Covered	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,556.5 m., or 5,106.5 ft.; Guadalajara, 1,566.9 m., or 5,140.6 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,265.8 m., or 7,433.5 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; San Luis Potosi, 1893 m., or 6210.4 ft.; Zacatecas, 2,498 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201m., or 7220.9 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 532 m., or 1745.4 ft. The data are published as given, except the conversions, which have been revised; and the barometer at Mexico, which has been corrected for the instrumental error —0.88 mm.

NETHERLANDS SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.77	756.1	29.77	756.1	37.4	3.0	.....	S	.....	.....	.....	.....	.....	.....	.....	0	0	.....	
Groningen	29.74	755.3	29.79	756.7	32.0	0.0	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.74	755.4	29.74	755.4	34.0	1.1	.....	SSE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.76	755.8	29.76	755.8	36.7	2.6	89	S	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.74	755.4	29.79	756.6	36.5	2.5	74	SSE	.....	.....	2	.....	10	.....	.....	0.004	0.1	Dull	H. v. d. Brink.

Note.—The originals give the wind-pressure in kilograms per square meter, except Hellevoetsluis, which gives force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which is inferred the amount of cloudiness by the scale 0 to 10, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.54	750.3	29.60	751.7	36.3	2.4	93	ESE	6.5	2.9	.....	.....	4	.....	.....	.....	.....	Light fog.....	
Brönö	29.40	746.7	29.44	747.7	35.2	1.8	90	SSW	9	4	.....	.....	10	.....	.....	0.181	4.6	Light rain...	
Christiania	29.50	749.2	29.65	753.2	17.1	— 8.3	79	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.26	743.1	29.30	744.2	35.2	1.8	80	SW	9	4	.....	.....	10	.....	.....	0.043	1.1	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.30	769.6	30.49	774.5	55.0	12.8	90	N	4.9	2.2	.....	.....	3	.....	.....	0.039	1.0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.5	30.08	764.0	51.6	10.9	43	NNE	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.10	764.6	30.19	766.8	57.4	14.1	65	NW	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.14	765.5	51.4	10.8	57	SW	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.37	771.5	30.44	773.3	58.3	14.6	61	NNE	19.9	8.9	.....	.....	3	.....	.....	0.071	1.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h 6 m., p. m.

Portuguese Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. G. da Silva Costa, Com'd.t.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Comd't.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, Ajuda, Gulf of Guinea	.....	.....	29.93	760.3	82.8	28.2	.....	WSW	.....	.....	2	.....	.....	.....	WSW	2	W	Blue sky.....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Rio Lima, Capt. S. C. da SilvaCosta, Porto Praya, Cape Verd Islands	.....	.....	29.95	760.8	76.3	24.6	.....	Var.	.....	.....	3	.....	7	.....	NE	2	NE	D. clouds.....	A. Ferreira, 2nd Lt.
Sá da Bandeira, St. Paul de Loando	.....	.....	29.73	755.2	84.9	29.4	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	F. Teixeira da Silva, Com'd't.
Sado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Ribeiro de Costa, Com'd't.
Tejo, Macao, China	.....	.....	29.97	761.2	66.6	19.2	.....	NE	.....	.....	2	.....	3	.....	NE	.....	.....	D. clouds.....	J. M. T. Guimaraes, Com'd't.

Note.—In the originals the weather is given by the Beaufort notation; not any distinction between the upper and lower clouds; not any humidity. The Sá da Bandeira gives the barometer reduced to freezing, but not to sea-level.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.30	744.1	29.73	755.2	32.9	0.5	89	SSW	16	7	.....	.....	10ks;n	.....	.....	.....	.....	Sleeting	Astronomical Obs
Wilna	29.26	743.3	29.69	754.2	35.6	2.0	89	WSW	4	2	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.54	750.2	29.79	756.6	30.9	— 0.6	85	S	4	2	.....	.....	1ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.77	756.2	29.79	756.6	36.9	2.7	79	S	7	3	.....	.....	9n	.....	.....	.....	.....	.....	Central Physical Obs.
Kieff	29.14	740.2	29.78	756.4	44.8	7.1	77	W	7	3	.....	.....	8c;ks	.....	.....	.....	.....	Solar corona.	Physical Cabinet.
Nikolaiev	29.89	759.1	29.96	760.9	55.2	12.9	52	SSW	9	4	.....	.....	7c;ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.06	763.4	30.08	763.9	48.6	9.2	95	E	4	2	.....	.....	8	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.47	748.4	30.04	763.0	30.2	— 1.0	98	S	7	3	.....	.....	10s	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.74	755.5	29.94	760.6	58.3	14.6	52	SW	9	4	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.83	757.6	29.85	758.1	29.8	— 1.2	92	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Capt. Sseliwerstow.
Tiflis	28.83	732.2	30.26	768.6	53.4	11.9	44	Calm	0	0	.....	.....	4s	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.26	768.7	30.18	766.6	42.8	6.0	67	SSE	13	6	.....	.....	4s	.....	.....	.....	.....	.....	Capt. Wisganow.
Krotkowo*	29.56	750.8	30.05	763.3	31.6	— 0.2	74	S	2	1	.....	.....	10	.....	.....	Blank	Blank	.....	Cand. Fatjanow.
Kasan	29.82	757.3	30.10	764.6	21.7	— 5.7	84	ESE	4	2	.....	.....	10	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Ekaterinburg	29.30	744.1	30.34	770.7	16.0	— 8.9	78	N	2	1	.....	.....	10	.....	.....	.....	.....	Light snow..	Meteorological Obs.
Nukuss	30.18	766.6	30.43	772.8	34.7	1.5	49	NNE	7	3	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	29.68	728.4	30.48	774.1	36.0	2.2	72	Calm	0	0	.....	.....	6	.....	.....	.....	.....	.....	Teich, A. M.
Barnaul	29.89	759.1	30.44	773.3	6.3	—14.3	64	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	30.26	768.7	30.59	777.0	5.2	—14.9	82	W	9	4	.....	.....	10	.....	.....	.....	.....	Light clouds	Marks.
Peking, (China)	30.31	769.8	30.45	773.4	23.4	— 4.8	25	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	29.87	758.6	29.96	761.1	18.3	— 7.6	83	N	31	14	.....	.....	10n	.....	.....	Blank	Blank	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend 455? m, or 1,492.7? ft., Irkutsk, 461.5 m., or 1,514.1 ft.; Nertchinsk, 660? m., or 2,165.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.9	29.91	759.7	47.7	8.7	48	SW	2.6	1.14	.....	.....	1ck;k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.3	29.95	760.8	52.0	11.1	74	N	1.2	0.54	.....	.....	10	.....	.....	0.236	6.0	Covered...	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.99	685.6	.....	.....	41.0	5.0	90	SW	6.2	2.77	.....	.....	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.6	.....	.....	48.2	9.0	58	SW	17.2	7.67	.....	2	2	N	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.85	758.2	30.00	762.1	56.1	13.4	57	NW	8.2	1.44	.....	2	0	W	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.06	738.0	29.98	761.4	42.6	5.9	64	SE	6.9	3.1	.....	.....	10	.....	.....	0.059	1.5	Rainy	R. Gil Villanueva, Dir.
Sub-Series																			
Havana, Cuba, W. I	30.02	762.4	30.08	764.1	70.4	21.3	77	NNE	10.0	4.5	.....	0	1k	.....	NE	0.126	3.2	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	29.79	756.9	29.85	758.2	84.2	29.0	65	SW	7.4	3.3	.....	1ck	2k	.....	E	0	0	Cloudy.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.0	30.10	764.5	53.4	11.9	44	NNE	2.6	1.2	.....	0	3	.....	W	0	0	.....	Capt. C. Pujazon, R. N. Dir.
San Juan de Porto Rico, W. I.	29.88	758.9	29.97	761.2	77.4	25.2	83	SE	3.9	1.76	.....	1s	1k	SE	SE	0	0	Clear.....	Leonardo de Tejeda, Ch't. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan is measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Madrid, Murcia and Santiago the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.65	753.1	29.69	754.1	16.9	— 8.4	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.68	752.5	29.68	753.8	20.8	— 6.2	59	SW	.....	.....	2	.....	10	.....	.....	0.031	0.8	.....	
Hernosand	29.61	752 1	29.66	753.4	18.3	— 7.6	100	N	.....	.....	.....	.....	10	.....	.....	0.012	0.3	.....	
Stockholm	29.47	748.6	29.65	753.1	27.0	— 2.8	88	Calm	.....	.....	0	.....	10	.....	.....	0.106	2.7	.....	
Wisby	29.57	751.1	29.63	752.6	33.1	0.6	92	NE	.....	.....	4	.....	10	.....	.....	0.118	3.0	.....	
Sub-Series.																			
Upsala	29.58	751.3	29.65	753.2	21.4	— 5.9	98	NNW	0	0	.....	.....	10	.....	.....	0.012	0.29	Snowing	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.42	721.9	29.01	759 7	34.7	1.5	74	NE	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.22	716.8	29.03	760.2	34.5	1.4	78	NW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.7 mm.; Thermometer, —3.9 ent.; Relative Humidity, +7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.05	763.2	62.4	16.9	53	SW	7	3.0	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, Persian Gulf	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.93	760.3	55.8	13.2	.....	W	.....	.....	1	.....	10	.....	.....	0.31	8.	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	30.01	762.2	30.12	765.1	68.7	20.4	60	N	.....	.....	1	.....	4c	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7, at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.62	777.7	30.69	779.5	— 1.7	—18.7	89	Calm	0	0	.....	0	0	.....	.....	0.30	7.6	Clear	Hon. J. Ferguson.
Brockville, Ontario	30.45	773.4	30.82	782.6	—25	—31.7	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	30.63	778.0	30.70	779.8	— 7	—21.7	92	Calm	0	0	.....	5ck	2ks	Calm	Calm	0.63	16.0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.54	775.5	30.58	776.7	8	—13.3	89	NW	8	3.6	.....	.....	8ks	.....	NW	0.300	7.62	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	30.53	775.4	30.76	781.3	—27.5	—33.1	100	NW	.....	.....	1	0	Fog	.....	.....	0	0	Fair	James Smith, M. A
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	W. H. Bevis.
*Father Point, Quebec	30.66	778.8	30.69	779.5	— 5	—20.6	70	W	15	6.7	.....	2k	2s	NW	NW	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.68	779.3	30.76	781.3	— 2.1	—18.9	77	NW	5.0	2.2	.....	3cs	0	SW	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.37	746.0	30.32	770.1	—10	—23.3	100	NE	7	3.1	.....	.....	10n	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	29.41	747.0	30.07	779.0	— 2	—18.9	.....	SE	.....	.....	1	cs	0	SE	.....	0	0	Clear	James Grant.
*Halifax, N. S	30.43	772.9	30.58	776.7	15	— 9.4	93	N	8	3.6	.....	.....	10ks	.....	N	0.100	2.54	Cloudy	F. Allison, M. A.
Hamilton, Ontario	30.38	771.6	30.79	782.0	— 4.6	—20.3	21	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Weedon.
*Kingston, Ontario	30.41	772.4	30.81	782.6	—16	—26.7	78	N	2	0.9	.....	2c	Sm'e	Calm	N	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.45	773.4	30.50	774.7	17.8	—7.9	90	E	8	3.6	.....	8k	.....	E	.....	0.340	8.64	Cloudy	C. H. Rigby.
Moose Factory, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. R. Nason.
*Montreal, Quebec	30.60	777.2	30.83	783.1	—12	—24.4	100	W	1	0.4	.....	0	Fog	.....	.....	0	0	Foggy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.92	760.0	30.72	780.3	—10	—23.3	59	E	3	1.3	.....	5ck	0	W	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.92	760.0	30.82	782.8	—20.9	—29.4	.....	NE	.....	.....	.....	2ck	0	.....	.....	0	0	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.91	759 7	30.71	780.8	— 1	—18.3	94	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Hastings, N. S	30.45	773.4	30.50	774.7	11.9	—11.2	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.93	760.2	30.68	779.3	— 5	—20.6	93	E	10	4.5	.....	.....	10ks	.....	E	0.02	0.5	Cloudy	M. Payne.
*Quebec, Quebec	30.43	772.9	30.81	782.6	—15	—26.1	73	W	.....	.....	3	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
*Rockliffe, Ontario	30.26	768.6	30.84	783.3	—36	—37.8	100	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	30.64	778.2	30.69	779.5	0	—17.8	73	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.52	775.2	30.71	780.0	4	—15.6	100	N	12	5.4	.....	0	7k	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.83	757.7	30.04	778.2	0	—17.8	64	SE	17	7.6	.....	.....	8ks	.....	.....	0.02	0.5	Cloudy	K. Stewart.
Stayner, Ontario	29.82	757.4	30.06	778.8	24	— 4.4	88	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	29.23	742.4	30.70	779.8	— 4.6	—20.3	96	E	7.5	3.4	.....	1cs	2s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.43	772.9	30.47	773.9	20	— 6.7	71	NW	11	4.9	.....	10cs	0	SW	.....	0.08	2.0	Cloudy	T. C. Hill.
*Toronto, Ontario	30.29	769.4	30.73	780.5	1	—17.2	97	NE	6	2.7	.....	.....	Sm'e	.....	.....	0.01	0.3	Light snow.	Magnetic Observatory.
Windsor, N. S	30.47	773.9	30.57	776.5	13.5	—25.3	91	NW	16	7.2	.....	.....	10ks	.....	.....	0.71	18.0	Overcast	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	42.0	5.6	91	S	.....	.....	.....	.....	10n	.....	.....	0.02	0.5	Raining	John Delany.

Note—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters, Stratford, 1,182 ft., or 360.3 meters.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUD. Amount. Up'er 0—10.	CLOUD. Amount. Low'r 0—10.	CLOUD. Direction. Upper. From—	CLOUD. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	30.55	776.0	30.82	782.8	0	—17.8	70	N	8	3.6	.....	1c	0	W	.....	0	0	Clear	
Alpena, Michigan	29.79	756.7	30.52	775.2	5	—15.0	75	S	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Atlanta, Georgia	29.26	743.2	30.49	774.4	30	— 1.1	59	NE	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	30.75	781.0	30.77	781.5	16	— 8.9	66	N	15	6.7	.....	0	5s	.....	Calm	0	0	Fair	
Augusta, Georgia	30.35	770.9	30.53	775.4	34	1.1	34	NE	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Baltimore, Maryland	30.74	780 8	30.80	782.3	19	— 7.2	54	NE	10	4.5	.....	0	Sm'e	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.71	780.0	30.73	780.5	17	— 8.3	83	N	22	9.8	.....	5c	0	N	.....	0	0	Fair	
Bismarck, Dakota	28.05	712.5	29.91	759.7	6	—14.4	100	NE	15	6.7	.....	.....	10n	.....	Calm	0.06	1.5	Light snow	
Boerne, Texas	28.68	728.5	30.02	762.5	48	8.9	85	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boise City, Idaho	27.13	689.1	30.09	764.3	38	3.3	71	W	8	3.6	.....	0	5s	.....	W	0.08	2.0	Fair	
Boston, Massachusetts	30.59	777.0	30.77	781.5	7	—13.9	54	NW	12	5.4	.....	5c	0	SW	.....	0	0	Fair	
Brackettville, Texas	28.99	736.3	30.04	763.0	51	10.6	93	E	8	3.6	.....	.....	10s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.95	735.3	30.04	763.0	5	—15.0	90	E	18	8.0	.....	.....	10n	.....	Calm	0.03	0.8	Light snow	
Brownsville, Texas	30.08	764.0	30.14	765.5	61	16.1	94	E	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Buffalo, New York	29.94	760.5	30.75	781.0	1.5	—16.9	86	E	6	2.7	.....	1cs	Haze	Calm	Calm	Inap.	Inap.	Clear	
Burkes, Arizona	.....	.....	.....	.....	53	11.7	14	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	30.52	775.2	30.86	783.8	— 3.5	—19.7	49	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	30.01	762 2	30.43	772.9	33	0.6	69	SE	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Camp Grant, Arizona	25.12	638.0	29.92	760.0	49	9.4	51	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	.....	.....	.....	.....	38	3.3	63	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Campo, California	27.32	693.9	29.89	759 2	31	— 0.6	59	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.53	775.4	30.54	775.7	35	1.7	70	NE	32	14.3	.....	2k	5s	NE	NE	Inap.	Inap.	Cloudy	
Cape Henry, Virginia	30.59	777.0	30.61	777.5	28	— 2.2	77	N	20	8.9	.....	.....	10s	.....	N	0	0	Cloudy	
Cape Lookout, N. Carolina	30.50	774.7	30.52	775.2	34	1.1	79	NE	39	17.4	.....	8k	0	NE	.....	0.02	0.5	Cloudy	
Cape May, New Jersey	30.70	779.8	30.73	780.5	19	— 7.2	69	N	12	5.4	.....	1cs	0	Calm	.....	0	0	Clear	
Castroville, Texas	29.38	746.2	30.10	764.5	52	11.1	81	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Charleston, South Carolina	30.41	772.4	30.47	773.9	35	1.7	45	NE	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	23.72	602.6	29.66	753.4	43	6.1	28	SW	4	1 8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.64	752.8	30.37	771.4	34	1.1	52	S	6	2.7	.....	.....	10c	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.83	757.7	30.54	775 7	26	— 3.3	69	SE	5	2.2	.....	4cs	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.83	757.7	30.64	778.2	10	—12.2	58	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.27	718.0	29.98	761.5	45	7.2	84	SE	13	5.8	.....	.....	10s	.....	S	0	0	Cloudy	
Columbus, Ohio	29.65	753.1	30.67	776.5	23	— 5.0	73	E	6	2.7	.....	5k	2s	SE	Calm	0	0	Fair	
Corpus, Texas	28.16	715.3	29.86	758.4	48	8.9	37	S	6	2.7	.....	10k	0	S	.....	0	0	Cloudy	
Corsicana, Texas	29.74	755.4	30.23	767.8	39	3.9	73	SE	7	3.1	.....	1c	0	N	.....	0	0	Clear	
Davenport, Iowa	29.45	748.0	30.12	765.0	27	— 2.8	88	SE	16	7 2	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Deadwood, Dakota	25.02	635.5	.....	.....	19	— 7.2	85	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Decatur, Texas	28.97	735.8	30.19	766.8	41	5.0	78	S	20	8.9	.....	.....	8s	.....	S	0	0	Fair	
Denison, Texas	29.38	746.2	30.20	767.1	41	5.0	57	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.47	621.5	29.69	754.1	48	8.9	41	S	8	3.6	.....	5c	0	NW	.....	0	0	Fair	
Des Moines, Iowa	28.97	735.8	29.86	758.4	35	1.7	80	SE	8	3.6	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Detroit, Michigan	29.80	756.9	30.54	775.7	14	—10.0	64	SE	11	4.9	.....	0	5s	.....	SE	0	0	Fair	
Dodge City, Kansas	27.18	690.4	29.48	748.8	38	3.3	55	S	12	5.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Dubuque, Iowa	29.38	746.2	30.12	765.0	25	— 3.9	75	SE	8	3.6	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Duluth, Minnesota	29.46	748.3	30.21	767.3	7	—13.9	88	NE	8	3.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.33	745.0	30.08	764.0	55	12.8	74	SE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.64	778.2	30.72	780.3	2	—16.7	72	N	17	7.6	.....	10cs	0	W	.....	0.21	5.3	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	60	15.6	94	Calm	.....	.....	0	0	5s	.....	S	0	0	Fair	
El Paso, Texas	26.19	665.2	.....	.....	47	8.3	19	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.87	758.7	30.68	779.3	8	—13.3	78	SE	13	5.8	.....	2c	0	Calm	.....	0	0	Fair	
Escanaba, Michigan	29.59	751.6	30.32	770.1	10	—12.2	89	E	3	1.3	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Florence, Arizona	28.34	719.8	29.94	760.5	52	11.1	54	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Buford, Dakota	27.99	710.9	.....	.....	— 4	—20.0	64	NE	.....	.....	4	.....	10n	.....	Calm	0.03	0.8	Light snow	
Fort Craig, New Mexico	25.44	646.2	29.51	749.5	37	2.8	54	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.17	639.3	30.13	765.3	41	5.0	48	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.59	751.6	30.14	765.5	41	5.0	41	S	16	7.2	.....	0	Sm'e	.....	S	0	0	Smoky	
Fort Griffin, Texas	28.76	730.5	30.08	764.0	35	1.7	90	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort Keogh, Montana	27.39	695.7	.....	.....	5	—15.0	75	N	16	7.2	.....	.....	10n	.....	N	0.12	3.0	Light snow	
Fort McKavett, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.82	732.0	29.96	761.0	38	3.3	72	S	12	5.4	.....	0	5s	.....	Calm	0	0	Fair	
Fort Stevenson, Dakota	28.13	739.9	.....	.....	— 4	—20.0	82	NE	.....	.....	6	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Fredericksburg, Texas	28.37	720.6	29.96	761.0	50	10.0	79	S	8	3.6	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	30.19	766.8	30.23	767.8	55	12.8	68	SE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Graham, Texas	29.00	736.6	30.07	763.8	45	7.2	76	SE	13	5.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Grand Haven, Michigan	29.65	753.1	30.36	771.1	17	— 8.3	67	SE	14	6.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianapolis, Indiana	29.58	751.3	30.43	772.9	26	— 3.3	68	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	30.16	766.1	30.19	766.8	58	14.4	88	E	15	6.7	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksboro, Texas	28.93	734.8	29.99	761.7	43	6.1	75	S	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.32	770.1	30.44	773.2	49	9.4	71	NE	20	8.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Keokuk, Iowa	29.42	747.2	30.06	763.5	33	0.6	56	S	12	5.4	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
Key West, Florida	30.10	764.5	30.13	765.3	66	18.9	84	NE	22	9.8	.....	.....	10s	.....	NE	0	0	Cloudy	
Kittyhawk North Carolina	30.54	775.7	30.57	776.5	34	1.1	61	NE	37	16.5	.....	0	8s	.....	NE	0	0	Fair	
Knoxville, Tennessee	29.45	748.0	30.54	775.7	25	— 3.9	81	NE	4	1.8	.....	Haze	Sm'e	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.30	744.2	30.08	764.0	18	— 7.8	84	S	4	1.8	.....	.....	10n	.....	Calm	0.03	0.8	Heavy snow	
La Mesilla, New Mexico	26.02	660.9	30.17	766.3	35	1.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.71	754.6	30.06	763.5	56	13.3	87	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.05	737.9	29.91	759.7	40	4.4	48	S	24	10.7	.....	.....	10s	.....	.....	0	0	Cloudy	
Los Angeles, California	29.56	750.8	29.90	759.4	52.0	11.1	93	E	3	1.3	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Louisville, Kentucky	29.86	758.4	30.47	773.9	29	— 1.7	56	SE	4	1.8	.....	2c	2s	S	Calm	0	0	Fair	
Lynchburg, Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Madison, Wisconsin	29.13	739.9	30.17	766.3	25	— 3.9	87	SE	13	5.8	.....	.....	10n	.....	Calm	0.01	0.3	Light snow	
Marquette, Michigan	29.54	750.3	30.32	770.1	8	—13.3	100	Calm	0	0	.....	.....	10n	.....	Calm	0.04	1.0	Light snow	
Mason, Texas	28.46	722.9	30.26	768.6	50	10.0	78	S	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	30.07	763.8	30.41	772.4	31	— 0.6	68	SE	4	1.8	.....	2c	Sm'e	Calm	Calm	0	0	Smoky	
Milwaukee, Wisconsin	29.49	749.0	30.26	768.6	27	— 2.8	88	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Mobile, Alabama	30.34	770.6	30.38	771.6	36	2.2	57	N	8	3.6	.....	1c	Haze	Calm	.....	0	0	Clear	
Montgomery, Alabama	30.21	767.3	30.46	773.7	35	1.7	44	NE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Morgantown, West Virginia	29.47	748.5	30.63	778.0	22	— 5.6	58	NE	6	2.7	.....	5cs	1s	Calm	Calm	0	0	Fair	
Mt. Washington, N. H.	23.75	603.2	30.11	764.8	—15	—26.1	42	NW	36	16.1	.....	0	2s	.....	NW	0	0	Clear	
Nashville, Tennessee	29.91	759.7	30.48	774.2	30	— 1.1	78	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	30.64	778.2	30.77	781.5	10	—12.2	78	N	14	6.3	.....	2c	0	Calm	.....	0	0	Clear	
New London, Connecticut	30.70	779.8	30.76	781.3	13	—10.6	62	N	12	5.4	.....	4cs	0	W	.....	0	0	Fair	
New Orleans, Louisiana	30.27	768.8	30.33	770 4	42	5.6	58	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.70	779.8	30.76	781.3	13.5	—10.3	73	N	10	4.5	.....	5c	0	W	.....	0	0	Fair	
New York, New York	30.60	777.2	30.80	782.3	13	—10.6	64	N	20	8.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.59	777.0	30.65	778.5	28	— 2.2	77	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
North Platte, Nebraska	26.74	679.2	29.36	745.5	27	— 2.8	88	NW	6	2.7	.....	10cs	0	W	.....	0	0	Cloudy	
Olympia, Washington Ter.	30.14	765.5	30.18	766.6	38.2	3.4	91	S	2	0.9	.....	0	4s	.....	S	0.59	15.0	Fair	
Omaha, Nebraska	28.67	728.7	29.07	738.6	35	1.8	72	S	18	8.0	.....	8c	2s	Calm	Calm	0	0	Cloudy	
Oswego, New York	30.44	773 2	30.80	782.3	13	—10.6	81	SE	6	2.7	.....	0	0	.....	.....	0.32	8.1	Clear	
Pembina, Dakota	29.80	744.2	30.24	768.1	— 3	—19.4	100	NE	8	3.6	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Philadelphia, Pa	30.72	780.3	30.78	781.8	13	—10.6	44	NE	10	4.5	.....	0	Haze	.....	NE	0	0	Dense haze.	
Phœnix, Arizona	28.67	728.2	30.48	774.2	50	10.0	65	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.58	446.5	29.78	756.4	15	— 9.4	14	SW	64	28.6	.....	2cs	0	Calm	.....	0	0	Fair	
Pioche, Nevada	23.86	606.0	29.63	752.6	48	8.9	29	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.77	756.1	30.66	779.2	12	—11.1	80	E	6	2.7	.....	2c	0	Calm	.....	0	0	Fair	
Port Huron, Michigan	29.81	757.2	30.66	776.2	7	—13.9	77	SE	6	2.7	.....	10ck	0	W	.....	0	0	Cloudy	
Portland, Maine	30.72	780.3	30.77	781.5	8	—13.3	78	NW	8	3.6	.....	1k	0	Calm	.....	Inap	Inap.	Clear	
Portland, Oregon	30.17	766.3	30.27	768.8	41.5	5.3	78	N	3	1.3	.....	0	5s	.....	.....	0.69	17.5	Fair	
Prescott, Arizona	24.64	625.8	30.10	764.5	45	7.2	39	W	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.11	739.4	29.93	760.2	55	12.8	88	SE	18	8.8	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.18	766.6	30.19	766.8	66	18.8	81	N	17	7.6	.....	.....	10s	.....	N	0	0	Cloudy	
Red Bluff, California	29.74	755.4	30.10	764.5	49	9.4	37	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.96	761.0	30.19	766.8	58	14.4	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Rochester, New York	30.05	763.3	30.76	781.3	3	—16.1	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.78	756.4	30.38	771.6	36.6	2.5	85	N	2	0.9	.....	5cs	0	Calm	.....	0.58	14.7	Fair	
Sacramento, California	29.92	760.0	30.01	762.2	51	10.6	59	N	20	8.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.68	753.9	30.28	769.1	32	0.0	69	SE	18	8.0	.....	2cs	8s;ks	Calm	Calm	0	0	Cloudy	
St. Marks, Florida	30.32	770 1	30.33	770.4	41	5.1	49	N	8	3.6	.....	2k	2s	Calm	Calm	0	0	Fair	
St. Paul, Minnesota	29.14	740.1	30.04	763.0	10	—12.2	89	NE	9	4.0	.....	.....	10n	.....	.....	0.24	6.1	Light snow	
Salt Lake City, Utah	25.51	747.9	29.84	757.9	45	7.2	53	W	4	1.8	.....	.....	10s	.....	W	0	0	Threatening	
San Antonio, Texas	29.44	647.8	30.04	763.0	51	10.6	79	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
San Diego, California	29.86	758.4	29.94	760.5	53	11.7	93	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.84	757.9	30.68	776.7	21	— 6.1	71	SE	11	4.9	.....	2ck	8s	W	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.74	780.8	30.77	781.5	13	—10.6	61	NE	25	11.2	.....	1c	0	W	.....	0	0	Clear	
San Francisco, California	29.96	761.0	30.03	762.8	50	10.0	72	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.19	589.2	29.73	755.1	36	2.2	45	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.36	771.1	30.46	773.7	37	2.8	53	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	30.07	763.8	30.30	769.6	41	5.0	49	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.24	615.7	30.49	774.4	40	4.4	64	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.49	774.4	30.63	775.4	30	— 1.1	78	NE	18	8.0	.....	0	8s	.....	NE	0	0	Cloudy	
Springfield, Massachusetts	30.64	778.2	30.79	782.0	9	—12.8	86	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.00	685.8	30.00	762.0	42	5.6	58	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.59	777.0	30.65	778.5	13	—10.6	64	NE	19	8.5	.....	8c	2s	NW	W	0	0	Cloudy	
Toledo, Ohio	29.78	756.4	30.54	775.7	18	— 7.8	84	SE	4	1.8	.....	8ck	0	Calm	.....	0	0	Cloudy	
Tucson, Arizona	27.43	696.7	29.98	761.5	52	11.1	53	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.79	756.7	30.30	769.6	39.0	3.9	64	SW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	16	— 8.9	100	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.24	742.7	30.07	763.8	54	12.2	67	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	30.13	765.3	30.41	772.4	36	2.2	53	SE	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	23.97	608.8	29.45	748.0	25	— 3.9	100	Calm	0	0	.....	.....	10n	.....	Calm	0.10	2.5	Light snow	
Visalia, California	29.55	750.6	29.92	760.0	54	12.2	78	NW	6	2.7	.....	0	8s	.....	Calm	0	0	Fair	
Washington, D. C.	30.63	778 0	30.76	781.3	21	— 6.1	67	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	45	7.2	61	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.43	772.9	30.62	775.2	30	— 1.1	67	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	34	1.1	52	N	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.68	779.3	30.72	780.3	13	—10.6	81	N	20	8.9	.....	5cs	2s	.....	NE	Inap.	Inap.	Cloudy	
Yankton, Dakota	28.43	722.1	29.78	756.4	16	— 8.9	83	NE	6	2.7	.....	2c	Haze	Calm	Calm	0.02	0.5	Fair	
Yuma, Arizona	29.63	752.6	29.79	756.7	57	13.9	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
Fayetteville, Ark	28.55	725.2	30.00	762.0	38	3.3	46	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Gordon.
Havana, Cuba, W. I	30.04	763.0	30.09	764.3	73	22.8	71	N	4.8	2.1	.....	4k	0	NE	.....	0.12	3.0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Navassa, W. I.	29.68	753.9	29.90	761.0	76	24.4	.....	SW	32.9	14.8	.....	.....	.....	.....	.....	0.83	21.1	Partly cl'dy	W. H. W. Jones.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.97	761.2	80	26.7	87	NE	.....	.....	3	0	5k	.....	.....	0	0	Fair	C. J. Hering
Santiago de Cuba, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Mason.
St. Thomas, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. O. Gellich.
York Factory, B. A.	30.26	768.6	30.31	769.9	—30.0	—34.4	.....	NW	18	8.0	.....	0	2s	.....	W	0	0	Fair	J. Fortescue & W. Wood

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin, and Paramaribo. The elevation of the barometer at Atlanta is 1,131.3 feet or 344.8 meters; Bismarck 1,704.3 feet, or 519.5 m.; Boerne, 1,393 (?) ft., or 406.3 (?) m.; Boise City, 2,877 (?) ft., or 876.9 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,470.0 (?) m.; Campo, 2,500 (?) ft., or 762.0 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4 (?) m.; Concho, 1,750 (?) ft., or 533.4 (?) m.; Deadwood, (?); Decatur, 1,160 (?) ft., or 353.6 (?) m.; Denver, 5,269 ft., or 1,606.0 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fayetteville, 1,422 ft., or 433.4 m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.4 (?) m.; Fredericksburg, 1,614 (?) ft., or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin 4,676 ft., or 1,425.2 m.; Mt Washington, 6,285 ft., or 1,915 6 m.; North Platte, 2,838.2 ft., or 865.1 m.; Omaha, 1,077.4 ft., or 328.4 m.; Phœnix, 1,800 ft., or 548.7 (?) m.; Pike's Peak, 14,150. 7 ft.,or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,700 (?) ft., or 1,737.3 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m., Santa Fé, 6,851 (?) ft., or 2,088.1 (?) m.; Silver City, 6.896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,542 (?) ft., or 774.8 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9(?) m.; Winnemucca, 4,885.8 ft., or 1,821.4 m.; Yankton, 1,275 ft., or 388.6 m. The following constants are added in correcting the barometric observations for altitude: Bismarck, 1.656 inches; Boise City, 2.96 in.; Camp Grant, 4.800 in.; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.96 in ; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.69 in.; Winnemucca, 4.36 in.; Virginia City, 5.45 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.91	759.7	56	13.3	57	13.9	47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Navy Yard, Pensacola, Fla.	30.40	772.1	42	5.6	42	5.6	66	NE	18	8.0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	.....
Navy Yard, Portsmouth, N.H	30.72	780.3	54	12.2	5	—15.0	75	N	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	.....
Naval Hospital, Yokohama, Japan.....*	30.24‡	768.1‡	.....	.....	53.2	11.8	80	S	.....	.....	2	.....	10ks	.....	W	0	0	.....	.....	Cloudy.....	.....
Adams. Panama	29.95	760.7	76	24.4	75	23.9	95	NNW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	.....
Alaska. Pichilinque Bay, Mexico	30.03	762.8	71	21.7	65	18.3	78	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Smooth	.....	Blue sky.....	.....
Alliance, Villafranca, France.....	29.79‡	756.7‡	.....	.....	53	11.7	54	SW	.....	.....	1	.....	10	.....	Calm	.....	.....	Light	S	Threatening	.....
Ashuelot, Hong-Kong, China.....	29.91‡	759.7‡	.....	.....	66	18.9	64	SW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Hazy	.....
Canonicus, New Orleans, La.....	30.27	768.8	38	3.3	43	6.1	100	NE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Fair.....	.....
Colorado, New York, N. Y.....	30.05	763.3	13	—10.6	13	—10.6	100	NW	9	4.0	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	.....
Constitution, Lisbon, Portugal.....	30.10‡	764.5‡	.....	.....	55	12.8	80	ESE	.....	.....	1	.....	3	.....	N	.....	.....	.....	.....	Hazy.....	.....
Despatch, Constantinople, Turkey	30.04‡	763.0‡	.....	.....	65	18.3	49	SW	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	.....
Franklin, Norfolk, Va.....	30.75	781.0	65	18.3	30	— 1.1	78	NNE	18	8.0	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	.....
Gettysburg, Genoa, Italy	29.79‡	756.7‡	.....	.....	46	7.8	100	N	.....	.....	2	.....	8ck	.....	N	0	0	Smooth	.....	.....	.....
Hartford, Montevideo, Uruguay...	29.93	760.2	73	22.8	76	24.4	52	W	.....	.....	2	.....	2	.....	.....	0	0	Smooth	.....	Fair.....	.....
Lackawana, Panama.....*	29.70‡	754.4‡	.....	.....	75	23.9	95	NNW	.....	.....	0-1	.....	2	.....	.....	0	0	.....	.....	Fair	.....
Michigan, Erie, Pa.....†	30.30	769.6	.....	.....	8	—13.9	78	S	.....	.....	2	.....	5	.....	S	.....	.....	.....	.....	Cloudy.....	.....
Monocacy. Ning Po, China.....*	30.25‡	768.3‡	.....	.....	41	5.0	74	NW	.....	.....	3-6	.....	10	.....	NW	.....	.....	.....	.....	Squally.....	.....
Monongehela, Yokohama, Japan .....*	30.17‡	766.3‡	.....	.....	54	12.2	74	SSE	.....	.....	2	.....	10	.....	.....	0	0	.....	.....	Overcast....	.....
New Hampshire, Port Royal, S. C.....	30.45	773.4	38	3.3	38	3.3	56	NE	13	5.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	.....
Onward, Callao, Peru.....†	30.00	762.0	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Long	W	Foggy	.....
Palos, Tientsin, China.....	30.33	770.4	28	— 2.2	25	— 3.9	87	NNW	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear.	.....
Passaic, Washington, D. C.....	.....	.....	.....	.....	29	— 1.7	78	NE	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	.....
Pensacola, S. 38° 48′, W. 84° 10′.....	29.81‡	757.2‡	.....	.....	66	18.9	94	NW	14	6.3	.....	.....	10	.....	.....	0.005	0.13	Smooth	W	Overcast.....	.....
Powhatan, Key West, Fla.....	30.16	766.1	68	20.0	68	20.0	79	NNE	.....	.....	4	.....	10	.....	NNE	0	0	Mod'ate	NNE	Overcast.....	.....
Quinnebang, Villafranca, France.....	29.79‡	756.7‡	.....	.....	51	10.6	59	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Smooth	.....	Cloudy.....	.....
Ranger. Kobe, Japan.....*	29.91‡	759.7‡	.....	.....	59	15.0	82	SE	.....	.....	4	.....	10	.....	Calm	.....	.....	Smooth	.....	Raining	.....
Richmond, Naples, Italy.....	29.89‡	759.2‡	.....	.....	52	11.1	79	SSW	.....	.....	1	.....	8	.....	SSW	.....	.....	Smooth	SSE	Cloudy.....	.....
Rio Bravo, Brownsville, Texas.....	30.10	764.5	64	17.2	62	16.7	100	E	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Fair.....	.....
Santee, Annapolis, Md.....	30.67‡	779.0‡	.....	.....	29	— 1.7	.....	E	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	.....
St. Louis, League Island, Pa	30.56	776.2	57	13.9	17	— 8.3	.....	NE	12	5.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	.....
Supply. N. 22° 36′, W. 61° 52′.....	30.11‡	764.8‡	.....	.....	79	26.1	74	ESE	.....	.....	5	.....	2	.....	ESE	.....	.....	Mod'ate	NE	Clear.	.....
Trenton Villafranca, France.....	29.79‡	756.7‡	.....	.....	53	11.7	61	SSW	.....	.....	0-1	.....	10	.....	S;W	0	0	None	.....	Cloudy.....	.....
Tuscarora, Acapulco, Mexico.....	29.95‡	760.7‡	.....	.....	76	24.4	68	Calm	.....	.....	0	.....	0	.....	.....	0	0	Smooth	.....	Clear	.....
Wabash, Boston, Mass.....	29.75‡	755.6‡	.....	.....	7	—13.9	54	NW	10	4.5	.....	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	.....
Wyoming, Smyrna, Turkey.....	30.09‡	764.3‡	.....	.....	64	17.8	89	S	.....	.....	1-2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	.....

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. †Aneroid. *The error of the barometer is not known. ‡Reduced to sea-level; corrections applied at this office. It is believed that the positions given are generally for noon, local time, instead of 7:35 A. M., Washington time. The elevation of Naval Hospital at Yokohama is 115 ft., or 35.1 meters, for which the constant reduction is 0.125 in., or 3.18 mm.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. China																			Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Berry.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury
S. S. Costa Rica																			
S. S. Dakota, Capt. Morse																			Capt. Connolly.
S. S. Georgia																			
S. S. Granada, N. 15° 45′, W. 97° 42′...†*		30.13‡	765.3‡	82	27.8	87	NNE			3		0			0	Light	WNW	Fine	Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zealandia																			R. C. Ghest, 1st Officer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12, and weather by the Beaufort notation, no distinction between upper and lower clouds. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. J. W. Jeaning.
S. S. Baltic																			Capt. H. Perry.
S. S. Britannic																			Capt. H. Gleadell.
S. S. Celtic																			Capt. C. W. Kennedy.
S. S. Germanic																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; for the Britannic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Capt. L. Meyer, Hong-Kong, China		29.77‡	756.1‡	68	20.0	79	NE			1		ks		NE		Smooth	NE	D. clouds	J. A. Thompson, 2d Off'r
S. S. Gaelic, N. 38° 10′, W. 170° 44′...†		30.32‡	770.1‡	54	12.2	76	E			5		s		W	0	Smooth		D. clouds	Capt. W. H. Kidley
S. S. Oceanic, Capt. J. Metcalf																			J. G. Cameron.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. †Aneroid. *The error of the barometer is not known. ‡Correction for temperature and elevation applied at this office.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. T. H. Lamke.
S. S. Braunschweig, N. 27° 05′, W. 19° 11′		30.18‡	766.6‡	69.0	20.6	56	NE			5		2		NE		Mod'ate	NNW	Fine	Capt. C. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig and Leipzig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell in general terms or occasionally by the scale 0 to 5; the S. S. Leipzig by the scale 0 to 12. ‡Correction for temperature and elevation applied at this office.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Indiana, N. 39° 7', W. 70° 45'		30.56‡	776.7‡	29	— 1.7		NE			7		8		NE	0	Smooth		Cloudy	Captain Sargent.
S. S. Ohio, Liverpool		29.74‡	755.4‡	40	4.4		NNE			2		10		NE	Blank			Cloudy	Wm. Shackford, Chief Officer.
S. S. Pennsylvania, Capt. Harris																			G. H. Dodge.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; amount of cloudiness without distinguishing between upper and lower; for Pennsylvania, the cloud direction as toward instead of from; sea-swell in general terms as published; rain-fall for Indiana and Ohio in general terms. †Aneroid. ‡Correction for temperature and elevation applied at this office.

RED STAR LINE MARINE SERIES.																			
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S. S. Nederland																			Capt. Bendle.
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NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.																			
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Schooner Addie Fuller																			Capt. James Jorgensen.

NOTE.—The originals give the barometer as read off; amount of cloudiness by the scale 0 to 4, without distinguishing between upper and lower.

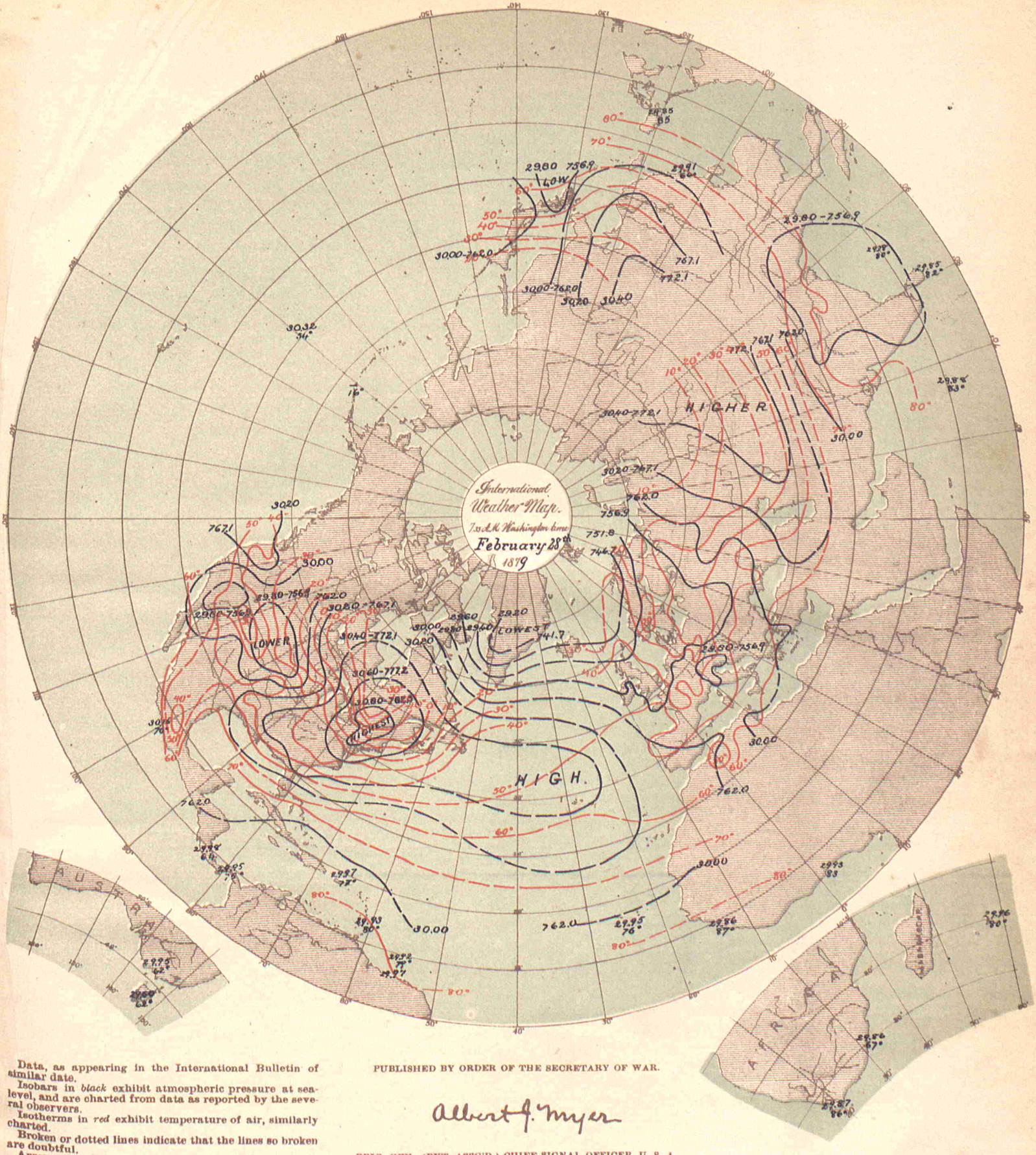
COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Canadian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer, U. S. A.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

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Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

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